THE EFFECT OF EMOTIONAL LABOR ON DEPRESSION AND JOB DISSATISFACTION AMONG YOUNG WORKERS

by

Arnold Brian (Butch) de Castro

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ABSTRACT

Emotional labor describes the management of feelings and expressions to create facial, bodily, and verbal displays for organizational goals in jobs involving direct interaction with clients and customers. Workers perform emotional labor through surface acting, by regulating emotional expressions, and deep acting, by modifying emotions to express a desired emotion. Emotional labor can cause dissonance between true emotions and emotions expected as part of the job, consequently leading to adverse psychosocial outcomes. Young workers typically fill jobs requiring emotional labor and may be at greater risk for adverse effects secondary to their psychosocial and emotional development. Cross-sectional analysis was conducted on data from a multi-racial sample (n = 127) of employed adolescents and young adults aged 17 to 28 years. First, a quantitative emotional labor scale was adapted for use with working youth. Second, relationships between emotional labor, factors of emotional vulnerability and job strain, depression, and job dissatisfaction were examined specifically testing for mediating and moderating effects of both surface acting and deep acting. The adapted scale measured a psychometrically sound two-factor structure of emotional labor capturing surface acting and deep acting. Neither form of emotional labor mediated associations between factors of emotional vulnerability or job strain and the outcomes of depression and job dissatisfaction. Negative affect, though, positively moderated the relationships for both surface acting and deep acting and the outcome depression. Regression analysis revealed that surface acting was negatively associated with depression, but that the interaction between surface acting and negative affect was positively associated. Neither form of emotional labor was associated with job dissatisfaction. Findings indicate that, among

young workers, the performance of emotional labor itself may not have adverse consequences. But, for individuals possessing increased levels of negative affect, emotional labor can have a significant bearing upon depression. This study suggests that dispositional characteristics of the individual are particularly relevant when considering the experience of emotional labor and encourages the inclusion of such measures for future research.

Dissertation Readers: Sheila T. Fitzgerald, PhD (advisor); Jacqueline Agnew, PhD; Barbara Curbow, PhD; Ellen-Marie Whelan, PhD; Paul Strickland, PhD; Joan Kub, PhD

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Now that this PhD "thing" is done, I just have two words to say,..."PLAY BALL!!!"

AUTHOR'S NOTE: The title originally desired for this doctoral dissertation opened with the phrase, "Service With a *Frown*". Modifying the customary mantra of the service industry ("Service With a Smile") would have allowed me to offer a small token of recognition to all workers who perform emotional labor that the work they do can be demanding and strenuous. That said, it is to the growing emotional proletariat (Macdonald & Sirianni, 1996) of this world, particularly of generations to come, that the effort captured in this research is also devoted.

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CHAPTER ONE: INTRODUCTION

OVERVIEW

This chapter serves to introduce the research effort detailed throughout the entirety of this doctoral dissertation. Brief descriptions of the premise, context, and main construct of emotional labor are offered as a glimpse into its relevant effects on human health and well-being. Additionally, the guiding conceptual model, specific aims, and hypotheses for this research are presented here.

INTRODUCTION TO RESEARCH

Progress into so-called post-industrial society is characterized by the transition from an economy primarily driven by manufacturing to one dominated by the service industry. Through the last half of the 20th century, the United States has undergone this transformation and has come to be recognized as the first true service economy in the world. Growth of the service economy continues to persist as evidenced by rising estimates of American workers employed in service-type occupations. Factors that catalyzed the transition into a service economy (such as relocation of manufacturing to developing countries, replacement of human labor by machinery and technological advances, and rising relative wealth of American consumers allowing the purchase of services) continue to stimulate the proliferation of service-sector employment well into the projected future.

From a perspective grounded in occupational health, and considering the continued expansion of the service industry coincident with the decline in industrial/manufacturing activity, a theoretical question arises as to the changing national character of worker health. Should we presume that workers in service occupations are at

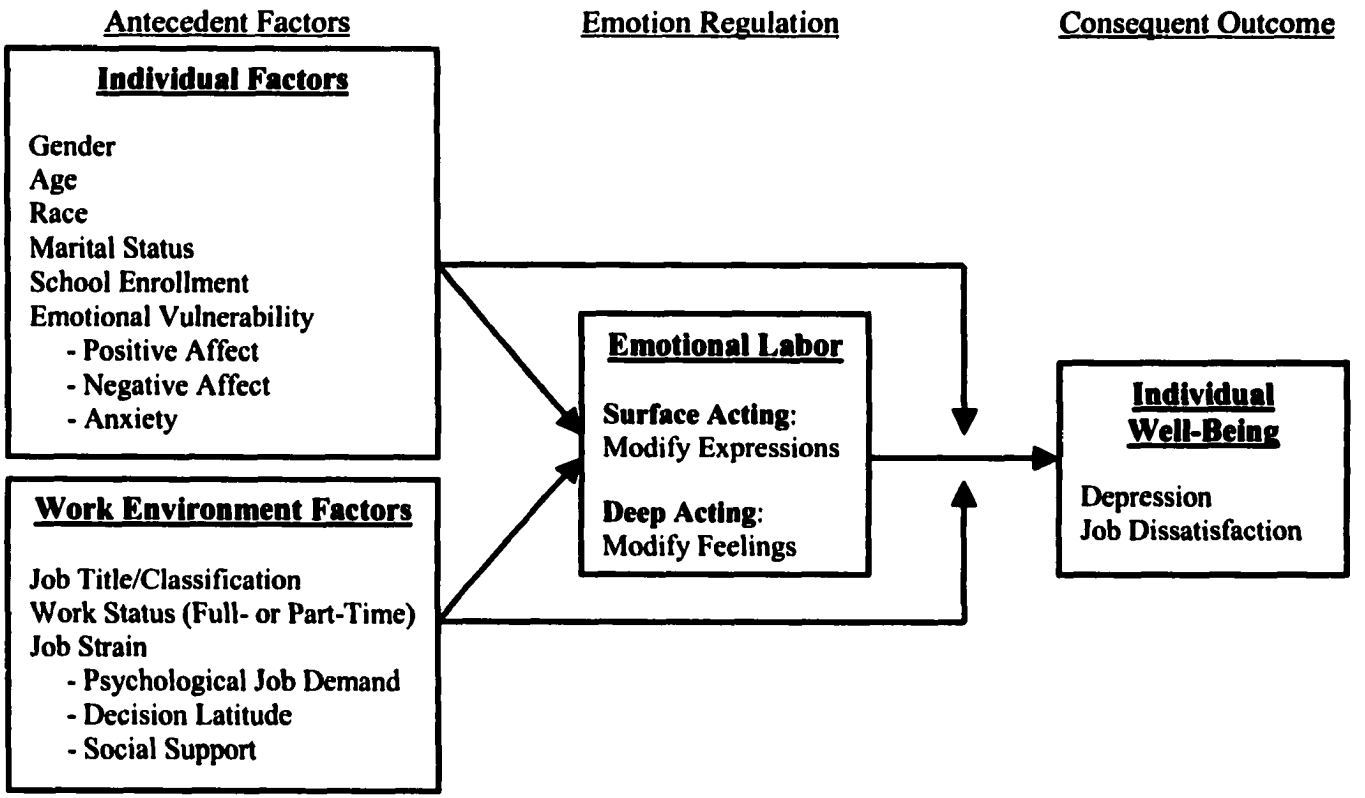
lesser risk for adverse, work-related health outcomes by virtue of the settings and job duties that characterize service work, particularly compared to agriculture and manufacturing? Exploration into contexts of service employment may reveal potential and real occupational "hazards" previously not considered nor understood. Such risks, as they bear upon worker health, cannot be overlooked and the notion that service work may indeed threaten worker well-being must be recognized. The research discussed in this dissertation examines this idea by investigating the specific concept of emotional labor.

Emotional labor captures the demand associated with working in the service sector, typically characterized by direct interaction with clients or customers. Emotional labor, originally defined by A.R. Hochschild (1983) as "the management of feeling to create a publicly observable facial and bodily display," is performed through two identified methods: surface acting (pretending or regulating one's emotional expressions) and deep acting (conscious modification of one's emotions to express a desired emotion). Three principle characteristics of jobs involving emotional labor are that they require face to face or voice to voice contact with the public; require the worker to produce an emotional state in another person (i.e., client or customer); and allow the employer, through training and supervision, to exercise a degree of control over the emotional activities of employees. The performance of emotional labor requires effort and thus presents an occupational demand on workers. Emotional labor can lead to a sense of inauthenticity by creating dissonance between emotions one truly feels and emotions one is expected to feel and display as part of the job. Such inauthenticity may threaten the worker's sense of self and lead to adverse psychosocial outcomes such as depression and job dissatisfaction, which are the primary outcomes of interest for this research.

Because segments of service sector employment are typically filled by younger workers, this research also focuses on this population. Paid work during youth into early adulthood is a common experience in the U.S. and is widely considered to be an important step in the path to adulthood. While youth employment is largely considered a positive matter, the risks to physical and psychosocial well-being must also be considered. The youth workforce has been identified by the National Institute for Occupational Safety and Health (NIOSH) as a "Special Population at Risk," a priority area within the National Occupational Research Agenda (NORA). Adolescents, teens, and young adults may encounter a disproportionately greater risk of negative health outcomes related to the experience of work due to their specific biologic, psychological, social, and economic characteristics (NIOSH, 2000). With the large representation of young workers throughout the growing service economy this population is especially likely to face the "hazards" related to client service work, such as emotional labor.

This research is the first known study of emotional labor using a defined population of young workers and primarily analyzed the cross-sectional associations between measures of emotional labor and the psychosocial outcomes of depression and job dissatisfaction. The conceptual framework utilized for this study (see Figure 1.1) was adapted from a broad theoretical model for emotional labor proposed by A. A. Grandey (2000). The model specifically features the distinction between the two forms of emotional labor (surface acting and deep acting) that accommodates investigation as to whether each style differentially impacts the well-being of workers either through mediating or moderating effects. Further, this research examines the psychometric properties of the recently developed Emotions at Work Scale (Spratt, 1996) for use to

Figure 1.1. Research-adapted conceptual model of emotional labor



(Adapted from: Grandey, 2000)

specifically measure emotional labor among young workers and incorporates it for specific hypothesis testing.

The study population and data are derived from a larger longitudinal study titled, "Work and Social Environments: Urban Youth and Cardiovascular Risk" (from the research effort know as "Project Heart 4"), under the direction of Dr. Sheila T. Fitzgerald. While the aims of this longitudinal study center on cardiovascular risk outcomes, data were collected to appropriately address the specific aims and hypotheses of the research detailed for this dissertation. The research effort described in this dissertation is a secondary, cross-sectional analysis of these data and will contribute to the overall objective of the "Work and Social Environments" study by considering the specific role of emotional labor as an aspect of the work environment in relation to health and well-being.

SPECIFIC AIMS

1) To examine the psychometric properties of a quantitative emotional labor scale for its utility among young worker populations.
2) To investigate the association of the distinct types of workplace emotional labor (surface acting and deep acting) and the outcomes of depression and job dissatisfaction among a sample of young workers.
3) To test the mediating and moderating effects of emotional labor according to a theorized conceptual model for emotional labor in the workplace.
4) To describe the roles of the distinct types of workplace emotional labor (surface acting and deep acting) as predictors of depression and job dissatisfaction among a sample of young workers.

STUDY HYPOTHESES

1) Level of surface acting emotional labor is positively associated with both depression and job dissatisfaction.

2) Level of deep acting emotional labor is negatively associated with both depression and job dissatisfaction.

3) The relationships between emotional vulnerability (characterized by low positive affect, high negative affect, and high anxiety) and the outcomes of depression and job dissatisfaction are mediated by the surface acting component of emotional labor.

4) The relationships between high job strain (characterized by high psychological job demand, low decision latitude, and low social support) and the outcomes of depression and job dissatisfaction are mediated by the surface acting component of emotional labor.

OVERVIEW OF DISSERTATION

Chapter Two begins by providing the social context for which this research is relevant: the growth of the service economy in America and the work experience of teens and young adults. Building upon these discussions, a history of the development of the scientific understanding of emotional labor is presented incorporating research findings with significant bearing on the specific aims and hypotheses of this study. Chapter Three details the methods employed for this research. Chapter Four presents the results of this study. Chapter Five concludes this dissertation with a summary of study results and a discussion of conclusions in relation to the study hypotheses, along with a consideration of the limitations and implications of this research.

CHAPTER TWO: BACKGROUND AND REVIEW OF LITERATURE

OVERVIEW

This chapter presents specific areas relevant to this research effort. Four principle areas (young workers, "servicization," emotional labor, and constructs studied in relation to emotional labor) are presented. The discussions and descriptions made within each of these areas are intended to provide a working foundation upon which to consider the subsequent analyses offered for this study.

YOUNG WORKERS (A Special Population At Risk)

Employment during teenage years and early adulthood is a common experience among youth in the United States. Approximately 50% of high school students are employed while enrolled in school and 80% will have engaged in part-time work at some point during the high school years. Additional estimates, according to the National Survey of America's Families in 1997, report that 40% of the nation's 16- to 17-year-old high school students held jobs within the last month; of which 25% worked 20 hours or more per week (Lerman, 2000). The numbers of working youth are increasing, primarily due to growing employment opportunities (i.e., growth of the service economy) and the attraction to a gainful income to meet lifestyle expenses (e.g., family income assistance and discretionary purchases) (Barling & Kelloway, 1999; Fitzgerald & Laidlaw, 1995; Greenberger & Steinberg, 1986).

Paid work during one's youth is widely considered to be an important step in the path to adulthood (Dennehy & Mortimer, 1993; Mortimer, Finch, Ryu, Shanahan, & Call, 1996). Researchers propose that part-time employment may benefit youth by imparting positive work values, reinforcing the importance of academic skills for future career

success, providing a better understanding of the workplace, increasing contact with adults, and building character (Frone, 1999). In addition, the employed youth learns how to acquire a job, meet supervisors' expectations, deal with responsibility, manage money, be punctual, and even gain task-related skills that are transferable to other jobs. During teenage and early adult years, employment may enhance self-concept, provide new identities and new expectations of responsibility and independence as perceived by parents (Phillips & Sandstrom, 1990), and increase status in the eyes of peers (Shanahan, Finch, Mortimer, & Ryu, 1991). Positive work experiences during teenage years are typically thought to benefit one's development, maturity, and sense of responsibility (United States Department of Labor [US-DOL], 2000). Elder and Caspi (1990) report that employed youths' growing capacities to manage their time in juggling the multiple responsibilities of worker, student, friend and family member promotes a general sense of efficacy. Moreover, suggestion has been made that working youth are less likely to have extensive behavioral or emotional problems (Lerman, 2000) or delinquency (US-DOL, 2000).

While the positive outcomes of youth employment have been noted, the risks to physical and psychosocial well-being must also be considered (Ashford, 1995; Fitzgerald & Laidlaw, 1995). For example, researchers observe that teens working over 20 hours a week have lower grades and higher school absenteeism than their peers working fewer hours (Barling, Rogers, & Kelloway, 1995; Greenberger & Steinberg, 1986; Lillydahl, 1990; Mortimer et al., 1996; Schoenhals, Tienda, & Schneider, 1998; Steinberg, 1993). Other negative aspects of youth employment include threats to completion of developmental tasks and education, injury, toxic exposure, and illness (Greenberger &

Steinberg, 1986; National Research Council & Institute of Medicine, 1998; Pollack, Landrigan, & Mallino, 1990; Steinberg, 1993). Youth can be at higher risk for work-related injury and illness because they commonly demonstrate poor judgment and assessment of risk, pursue sensation seeking behaviors, succumb to peer pressure, possess an incomplete self-image, experience pressure to excel, maintain the need to prove independence and maturity, desire to conform, and rebel against authority (NIOSH, 1997). Additionally, because youth continue to experience growing, evolving degrees of social competence and emotional maturity, workplace stressors, as a part of the psychosocial environment, can have profound impact on critical transitions during this period in life (United States Department of Health and Human Services [US-DHHS], 1999). These points reveal that the physical and psychosocial stressors of work present young workers with an experience very different from that confronted by older, adult working populations.

A primary source of employment for youth is the service industry. Teenagers, as well as young adults, typically work in retail sales and customer service; such as food and beverage services, cashiers, and sales clerks (Castillo, Davis, & Wegman, 1999). These jobs characteristically require few skills, accommodate part-time schedules, are temporary, and pay poorly (Loughlin & Barling, 1999). As such, young workers serve as ideal candidates for these positions because they are willing to work part-time at low wages and irregular schedules, are submissive employees, have little or no prior job experience, are provided some stimulation (even in dull and poorly paid jobs), are given the opportunity for self-testing, and receive a simple sense of satisfaction (Greenberger & Steinberg, 1986; Mihalic & Elliot, 1997). Consequently, teenagers and young adults

have come to make up a significant portion of the working population in sectors of low-level, front-line interactive service employment. The Current Population Survey (CPS), described in the U.S. Department of Labor's (2000) "Report on the Youth Labor Force," showed that approximately 62% of youths aged 15 to 17 employed during school months between 1996-98 worked in retail trade while an additional 25% worked in service industries. More specifically, 39% of these youths worked in service occupations (e.g., food preparation and service) and 27% worked in sales jobs (e.g., cashiers). These proportions, moreover, are projected to increase in the future with the continual growth of the service and retail industries (US-DOL, 2000).

As a result of this overrepresentation, working youth disproportionately face the occupational challenges distinctly associated with service industry jobs. Young workers regularly tolerate the actual and potential hazards of service employment because there is no expectation to stay for long-term periods and there exists a large supply of replaceable employee candidates. Moreover, young workers are not likely to demand improvements in working conditions or pay because they are typically naïve about their legal rights and employers' responsibility for workplace health and safety (Greenberger & Steinberg, 1986).

"SERVICIZATION" IN POST-INDUSTRIAL AMERICA

In recent decades, service activities in the total United States economy have proliferated extensively. The service industry has emerged in present-day America replacing industrial manufacturing as the dominant form of business (Leidner, 1993). This economic transition heralds the entrance into so-called post-industrial society. Growth in the provision and consumption of "intangible" commodities (in other words,

services) indicates this transition (Gershuny, 1987; Mills, 1986) and symbolizes the current and foremost state of business in this country (Illeris, 1996).

Immediately following World War II (Gershuny & Miles, 1983) and through the last quarter of the 20th century (Mills, 1986), the U.S. became known as the first service economy in the world. Estimates reveal that the percent of total employment in the service sector has grown progressively from 54.7% in 1950 to 72.5% in 1992 (Illeris, 1996). According to the U.S. Census Bureau (2001), the service and wholesale/retail trade industries alone comprised 57.3% (36.7% and 20.6%, respectively) of total employment in the year 2000, which excludes other service-oriented occupations falling within other major industries such as manufacturing and agriculture. Further, retail salespersons and cashiers ranked second and third, respectively, only behind systems analysts as occupations with the largest projected overall job growth into the year 2008.

The shift from a primarily manufacturing economy to a service economy in the U.S. can be attributed to several factors; such as the relocation of manufacturing activities to the developing world to take advantage of cheap labor (Shelp, 1981), increased technological automation for manufacturing consequently replacing human labor (Gershuny & Miles, 1983), and the rising relative wealth of the American population which affords greater capacity to purchase services, in turn, motivating further supply of services (Gershuny & Miles, 1983; Illeris, 1996). Also, the point has been made that "servicization" is a natural by-product of industrialization because service industries facilitate extractive and manufacturing activities and serve as a conduit for goods and products to be delivered to consumers (Riddle, 1987).

Interestingly, a more recent glimpse and anticipation into the future of the U.S. economy goes as far as to encourage that all enterprises adopt a fundamental precept that experiences are a distinct economic offering that provides the key to financial success. The term "experience economy," as an extension of the service economy, has been coined for this approach in which companies (of all type) can deliberately stage experiences for customers and consumers to be more profitable. For example, restaurants can transform a simple meal into a theatrical dining event while manufacturers can integrate product-linked "friendly" service maintenance programs (Pine & Gilmore, 1999). Promoting such a direction indicates the growing overall value of services and a potentially fervent push towards incorporating more service-oriented activities into all types of business ventures. The primary focus of the "experience economy" is the joy and fulfillment of the consumer, while unfortunately failing to consider the imposition on workers to participate as actors on the "business" stage. Stated explicitly as a component of this business philosophy is the direct management of workers who are instructed and expected to perform in line with designed and, essentially, scripted behaviors (Pine & Gilmore, 1999).

From a viewpoint grounded in occupational health, considering the continued expansion of the service industry coincident with the decline in industrial/manufacturing activity, questions do arise as to the changing national character of worker health. Should we presume that workers in service occupations face less deleterious work-related hazards because of the relative "safe" environment compared to those that exist in agricultural and manufacturing settings? More specifically, can the general assumption be made that job duties for service workers are less straining to health and well-being by

virtue of the types of activities in which they engage? Affirmative responses may surely lead to a mistaken sense of confidence. Rather, as the landscape of work settings and sorts of job duties shift (such as from agriculture to manufacturing to service), so must the perspective with which worker health is examined. Exploration into contexts of service work may reveal potential and real emerging occupational "hazards" previously not considered nor understood. Such risks, as they bear on worker health, cannot be overlooked, and, the notion that service work may indeed threaten worker well-being must be recognized.

EMOTIONAL LABOR

The decline in manufacturing jobs and the surge in service sector employment (Kuhn & Wooding, 1994) have led to an increase in emotional labor as an essential component of job duties. Emotional labor was first defined by Hochschild (1983) as "the management of feeling to create a publicly observable facial and bodily display" in the context of service work. The work of flight attendants and bill collectors were examined specifically because of the high level of emotional labor required by these jobs. Three principal characteristics of jobs involving emotional labor are that they require face to face or voice to voice contact with the public; require the worker to produce an emotional state in another person (i.e., client or customer); and allow the employer, through training and supervision, to exercise a degree of control over the emotional activities of employees. The performance of emotional labor requires effort and thus, presents an occupational demand on workers. This management of emotions in the context of work is recognized as a labor process that is sold for a wage and, therefore, is commoditized and has exchange value (Hochschild, 1983).

Emotional labor, because it possesses an aspect of control over workers, can result in negative psychosocial outcomes such as job stress and burnout. More specifically, emotional labor creates routinized, processed feelings and emotional dissonance that threaten the worker's sense of self, alienates the worker from his/her true feelings, and produces an impression of "inauthenticity" (Hochschild, 1983; Leidner, 1999). Because emotional labor occurs in jobs that involve direct contact with customers, service work sometimes entails interactions with angry, hostile, or uncooperative customers. These interactions can be emotionally charged and a source of increased demand (Hochschild, 1983, 1989; Morris & Feldman, 1996; Tolich, 1993).

Interactive service workers engage in emotional labor through two principal methods: "surface acting," by pretending or regulating one's emotional expressions, and "deep acting," by consciously modifying one's emotions to express a desired emotion (Hochschild, 1983; Grandey, 2000). The distinction between these two methods has been considered by some researchers to be critical with respect to the consequences of carrying out emotional labor. As Hochschild (1983) originally described, surface acting is associated with "inauthenticity." Inauthenticity reflects the dissonance between emotions genuinely felt by the service worker and those that must be portrayed according to organizational expectations imposed onto the service interaction. Hochschild (1983) further noted that surface acting could lead to decreased levels of job satisfaction and self-efficacy. Brotheridge and Lee (2002) specifically examined the relationship between the distinct forms of emotional labor (surface acting and deep acting) and authenticity among a heterogeneous sample of full-time workers employed in client/customer-interactive jobs. Surface acting was found to be negatively associated with authenticity,

while deep acting was positively associated. Further path analysis demonstrated that direct prediction of authenticity also occurred in the same directions. Additionally, authenticity positively predicted a sense of personal accomplishment and negatively predicted emotional exhaustion. Erickson and Ritter (2001) studied a community-based sample of workers holding a variety of occupations and also showed that the management (more specifically, hiding) of agitation (composed of the feelings "irritated," "angry," and "nervous") is significantly associated with and predicts felt inauthenticity. Further analysis revealed a moderating effect in which inauthenticity increased as hiding agitation increased, but only among workers experiencing high levels of agitation. The process of hiding described in the Erickson and Ritter study can be easily likened to the performance of surface acting. Collectively, these findings serve to provide empirical evidence for Hochschild's original notion of the connectedness between surface acting and [in]authenticity.

Theorists (Abraham, 1998; Grandey, 2000; Morris & Feldman, 1996; Rafaeli & Sutton, 1987) further characterized the notion of inauthenticity as emotional dissonance to describe the conflict between emotions truly felt or experienced and those that are expressed to fulfill organizationally expected roles. In this sense, emotional dissonance is deemed a dimension or facet of emotional labor rather than a consequence. Furthermore, consistent with Hochschild's ideas, Morris and Feldman (1997) contended that dissonance causing events while on the job are what make service work more labor intensive and demanding because it requires greater effort to control true feelings. Pugliesi (1999), in an examination of "self-focused" emotional labor (operationally consistent with surface acting and emotional dissonance), concluded that such a work

demand decreases job satisfaction and increases job stress and physiological distress. Conversely, when deep acting is successfully undertaken, workers evade feelings of phoniness or self-estrangement and a sense of satisfaction over the ability to do one's job (fulfill the service role) and accomplish organizational expectations of emotional display are achieved (Hochschild, 1983). In this sense, deep acting is thought to lead to low dissonance and have the opposite effect of surface acting (Kruml & Geddes, 2000b). Additionally, Brotheridge and Grandey (2002) found that deep acting positively predicted a sense of personal accomplishment, further contributing to the notion of the potential protective effect of this form of emotional labor. Considered altogether, these findings support the idea that associations between emotional labor and constructs of job-related psychological well-being (i.e., job satisfaction and burnout) are dependent on distinct uses of either surface or deep acting.

Numerous theorists and investigators since Hochschild's work have recognized the construct of emotional labor among a variety of occupations representing the service industry (Macdonald & Sirianni, 1996; Rafaeli & Sutton, 1987; Steinberg & Figart, 1999); such as fast food workers (Leidner, 1993), bill collectors (Sutton, 1991), waitresses (Paules, 1991), grocery clerks (Tolich, 1993), paralegals (Lively, 2002; Pierce, 1999), police officers (Martin, 1999), nurses (Bolton, 2000; Henderson, 2001: Martschinke, 1996; O'Brien, 1994; Staden, 1998;), and Disney employees (Bryman, 1999). As the idea of emotional labor is increasingly acknowledged and accepted, additional researchers are continuing to note the psychosocial effects of emotional labor on employees (Abiala, 1999; James, 1989; Smith and Erickson, 1997; Wharton, 1999; Wharton and Erickson, 1995). While such studies have examined the effects of

emotional labor among specific types of job titles, no research has included nor focused specifically on workers such as teens and young adults. This research is the first study, to date, to measure emotional labor specifically with this population of workers.

Emotional Labor and Young Workers

Service work for youth is characteristically interactive; that is to say it involves direct interaction with customers or clients. These interactions tend to be routinized in order to create a means of control over worker actions (Leidner, 1993, 1999), thus creating a source of stress or job strain. Since young workers are particularly over-represented in service employment, they are at greater risk for workplace stressors associated with interactions between service worker and service recipient. Also, as noted by Hochschild (1983), "persons in lower-status categories – women, people of color, children – lack a status shield against poorer treatment of their feelings." Coincident with the idea of the social distribution of jobs, emotional labor is assumed by subgroups of workers accordingly. Gender has especially been discussed as a major determinant of this distribution in the context of emotional labor (Erickson & Ritter, 2001; Hochschild, 1983; Leidner, 1993; Pugliesi & Shook, 1997). Age, in this sense, can also operate as a powerful social determinant of employment and employability, just as factors such as gender, race, and class. Furthermore, problems linked to emotional labor can be compounded if the service provider is subordinate to the service recipient (Tolich, 1993), a circumstance that factors such as age and social position create. Young workers, as a result, are directed towards certain types of jobs (i.e., front-line service jobs) and work roles that oblige them to accept specific job demands, such as emotional labor. Additionally, given the relative immature stage of psychosocial development and

emotional vulnerability (Castillo et al., 1999) and relative limited extent of work experience, emotional labor may be uniquely stressful to young workers. Despite the current appreciation of emotional labor and the reception of the youth workforce in today's service economy, the effects of emotional labor on young workers specifically have received no empirical attention from researchers and will be the focus of this study.

The effects and impact of emotional labor on young workers have not been researched. Considering the conclusions of studies on adult worker populations, the occupational demand of emotional labor is hypothesized to profoundly impact young workers. The likelihood of youth to be employed in front-line interactive service work in concert with their developmental capacities contributes to the potential negative risks associated with emotional labor.

Formal Perspectives of Emotional Labor since Hochschild

Ashforth and Humphrey (1993)

Ashforth and Humphrey (1993) offered a perspective that operationalizes emotional labor as "the act of displaying the appropriate emotion." As such, the authors reframe Hochschild's original notion of feeling rules as display rules. This modification emphasizes external observable behavior (that which is displayed) rather than the internal emotional experience (that which is felt) of the service worker. Refocusing from the internal to the external "decouples the experience of emotion from the expression of emotion." Display rules are considered to be shaped by occupational, organizational, and larger societal norms and expectations, which provide some basis upon which the quality of service work extended is evaluated. Behavior, rather than emotion, is presented as the key component of the emotional labor construct. Accordingly, the authors declare that

emotional labor can facilitate "task effectiveness" (based on behavioral compliance with display rules), which considers the benefit of the service relationship more in terms of the service recipient rather than the service provider. Ashforth and Humphrey do also recognize that display rules can vary according to cultural/societal factors reflective of power status, such as levels of authority ascribed to particular occupational titles and roles (e.g., physicians, law enforcement, and teachers), that influence how service transactions are carried out. A greater power differential or imbalance in favor of the service agent, occupation, or organization (in relation to the recipient) allows for greater latitude to alter or adjust the degree of compliance with display rules.

Another variation on emotional labor occurs with the interpretation of surface acting and deep acting. While generally consistent with Hochshcild's original description of these dimensions, Ashforth and Humphrey assert that because service roles tend to be repetitive and scripted, surface and deep acting can, in turn, become "habitual[ly] routine," making the performance of emotional labor "relatively effortless." Though the authors note that engaging in emotional labor can be potentially deleterious to well-being when genuine emotion is not consistent with that expressed, the process in which this occurs is not explored. Moreover, the implication that emotional labor may indeed have no adverse consequences to the service worker is represented with this view.

Ashforth and Humphrey further identify social identity theory as a guiding reference for their perspective of emotional labor. Social identity theory is described as the process whereby an individual's social identification is based on the perception of belonging to a group classification. Assuming or adopting typical characteristics of a particular group leads to "self-stereotyping" and depersonalization of the self. Under this

principle, the authors suggest that the effects of emotional labor are moderated by the service workers' identification with the service role or occupation; thus, the greater the identification, the stronger the potential positive effects (i.e., facilitating authentic self-expression, identity enhancement, and willingness to comply with display rules) and the weaker the potential negative effects (i.e., emotive dissonance and self-alienation). Individual and situational factors in the context of the service role/context identification and in reaction to organizational demands (e.g., display rules) are also recognized to variably moderate such outcomes.

Morris and Feldman (1996 and 1997)

Morris and Feldman (1996) presented a perspective of emotional labor that sought to expand the ideas previously developed by Hochschild and Ashforth and Humphrey. Defining emotional labor as "the effort, planning, and control needed to express organizationally desired emotion during interpersonal transactions" (Morris & Feldman, 1996), they claim a view rooted in an interactionist model of emotion. Under the interactionist model, an individual comprehends emotions through their understanding of the social environment in which emotions are socially constructed and expressed. Thus, consistent with earlier theory of emotional labor, the authors recognize that the experience and expression of emotion is subject to external influences as well as managed by the individual him- or herself. Additionally, Morris and Feldman agree with Hochschild's original characterizations that emotional labor is effortful, emotional expression has become commoditized, and organizational rules are typically set to dictate and control the expression of emotions.

Reconstructing emotional labor, Morris and Feldman (1997) assert that it primarily consists of three components: (1) frequency of interaction, (2) duration of interaction, and (3) emotional dissonance. This three-component conceptualization is a revision from the authors' original proposal that characterized emotional labor consisting of four components: (1) frequency of emotional display, (2) attentiveness (composed of intensity and duration) to required display rules, (3) variety of expressed emotions, and (4) emotional dissonance. Interestingly, surface acting and deep acting are omitted from the revised conceptualization and only mentioned as minor determinants or aspects of intensity (as a dimension of attentiveness to display rules) in their original proposal. Regarding surface acting, though, some degree of consistency is apparent in the authors' description of emotional dissonance as "conflict between genuinely felt emotions and emotions required to be displayed" (Morris & Feldman, 1996). The goal of creating this multi-dimensional version of emotional labor was to describe it as a more complex construct than previously conceived in order to capture the numerous intricacies involved in service transactions.

Utilizing the more recent three-component conceptualization, Morris and Feldman (1997) explored both antecedents and consequences of emotional labor using a collective sample (n = 562) of debt collectors, military recruiters, and nurses. The antecedents identified include: (1) explicitness of display rules, (2) routineness of task, (3) job autonomy, and (4) power of role receiver. While these factors focus on critical organizational and job contexts, factors related to the individual (i.e., gender, affectivity) were not examined (though previously considered theoretically in their original article). Most notably, the authors found that emotional dissonance (as a component of emotional

labor) was positively predicted by task routineness ($\beta = 0.082, p < 0.05$) and negatively predicted by job autonomy ($\beta = -0.346, p < 0.001$). The consequences of emotional labor selected were: (1) emotional exhaustion, (2) job satisfaction, and (3) role internalization. Again, concentrating on the component of emotional dissonance, it was found to positively predict emotional exhaustion ($\beta = 0.316, p < 0.001$) and negatively predict job satisfaction ($\beta = -0.376, p < 0.001$) (Morris & Feldman, 1997). As stated above, emotional dissonance, as portrayed by Morris and Feldman, is relatively comparable with Hochschild's conception of surface acting. Considering the consistency in operational definitions, these findings lend support to the idea that emotional labor (surface acting, specifically) is associated with routinized, low control work and, in turn, can result in adverse effects for service workers.

While the perspective offered by Morris and Feldman attempts to formalize an "evolved" working model of emotional labor, it is considerably differentiated from those previously extended by Hochschild and Ashforth and Humphrey. As discussed, the construct of emotional labor is represented by three distinct components and omits surface acting and deep acting. This modification critically fails to consider or depict the process of how individuals actually manage emotions. Also, in terms of antecedent factors, individual worker characteristics are not included as potential predictors of emotional labor while only aspects reflective of the work environment are. Further, the associations between (1) antecedents and emotional labor and (2) emotional labor and consequences (outcomes) are investigated in isolation without exploring the potential collective relationships of all three groups (e.g., the moderating or mediating effects of

the components of emotional labor between antecedent variables and consequent variables).

Kruml and Geddes (2000)

In response to conflicting and competing views of emotional labor since *The Managed Heart*, Kruml and Geddes (2000a) offered a formalized model with the intent to be faithful to Hochschild's original emotion management perspective. Development of the model was driven by the creation of a general emotional labor scale that sought to establish distinct dimensions of emotional labor and potential antecedents. Scale items were first generated through examination of Hochshcild's original interviews, interviews with various service workers, and review by other researchers familiar with emotional labor. Subsequent distribution of the scale to a larger sample of various service workers allowed for factor analyses and further scale refinement. Results led to two distinct dimensions of emotional labor labeled emotive dissonance and emotive effort, respectively equated to the surface acting and active deep acting components identified by Hochschild. Additionally, a number of "antecedent" factors were produced accounting for personal characteristics (age, gender, occupational tenure, and emotional contagiousness) and job characteristics (customer affect, display training, emotional attachment, and display latitude). Through the use of structural equation modeling, the authors examined how these antecedent factors related to the performance of emotional labor. Kruml and Geddes found that workers are most likely to experience emotive dissonance (surface acting) when they are men, are older, are not emotionally attached to customers, encounter negative emotions from customers, do not experience emotional contagion, and have less latitude in emotional expression. Conversely, workers are likely

to exercise emotive effort (deep acting) when they are older, given more training for emotional expression, have less experience working with the public, have less latitude in emotional expression, respond with emotional contagion, and encounter negative emotions from customers. These findings provide evidence that antecedent factors can act on either type of emotional labor in different ways and, thus, should be examined under this consideration.

Kruml and Geddes' effort was a good "first" attempt to formalize an emotional labor model that preserved Hochshcild's original conceptions of the construct. By considering a variety of antecedent factors, the model effectively incorporates traditional and conventional thought that personal and job characteristics influence the performance of emotional labor. While a number of antecedent factors were examined, the authors do suggest that others be explored to help further explain the performance of emotional labor. More importantly, though, theirs was the first model to specifically distinguish the processes of surface acting (emotive dissonance) and deep acting (emotive effort) in accordance with Hochschild's definitions. Further, quantitative assessment of these dimensions was done prompting researchers to explore an alternative method to measure emotional labor compared to previous, customary qualitative methods.

A key limitation to Kruml and Geddes' model is that outcomes or consequences (either for the individual worker or the organization) of emotional labor are absent. The authors do allude to the notion that each dimension (or type) of emotional labor may uniquely predict work and personal outcomes, much like antecedents related to each dimension differently, as described above. Subsequent analyses (Kruml & Geddes, 2000b), using the same sample, attempted to extend the model by examining four specific

outcomes: emotional exhaustion, depersonalization, personal accomplishment, and job involvement. Results revealed that emotive dissonance (surface acting) was positively associated with emotional exhaustion and depersonalization, while negatively associated with personal accomplishment and job involvement. Conversely, emotive effort was negatively associated with emotional exhaustion and depersonalization, while positively associated with personal accomplishment and job involvement. The authors concluded that workers who express true feelings (through less emotive dissonance or more emotive effort) in client/customer interactions are "healthier" than those who do not (Kruml & Geddes, 2000b). While particular outcomes were explored in the context of the model, a more generic categorization of outcomes providing an adaptable structure would be helpful in guiding additional research.

Another feature of the Kruml and Geddes perspective (not confined to their emotional labor model) lies in their discussion of human resource implications. The authors assert that organizational adjustments can be made in order to help protect the emotional well-being of service workers. Recommendation is made that companies pursue the following actions: (1) train employees to change their emotions (particularly when negative customer encounters are expected); (2) allow opportunities for employees to become emotionally attached to customers; (3) consider recruitment and hiring of individuals who are emotionally empathetic and susceptible to emotional contagion; (4) integrate job variety and rotation to limit exposure to dissonance-causing encounters; and (5) redesign the physical work environment to that more conducive to deal with stress associated with emotive dissonance (surface acting). The rationale given for these measures is framed in the context of benefiting the worker by preventing or mitigating

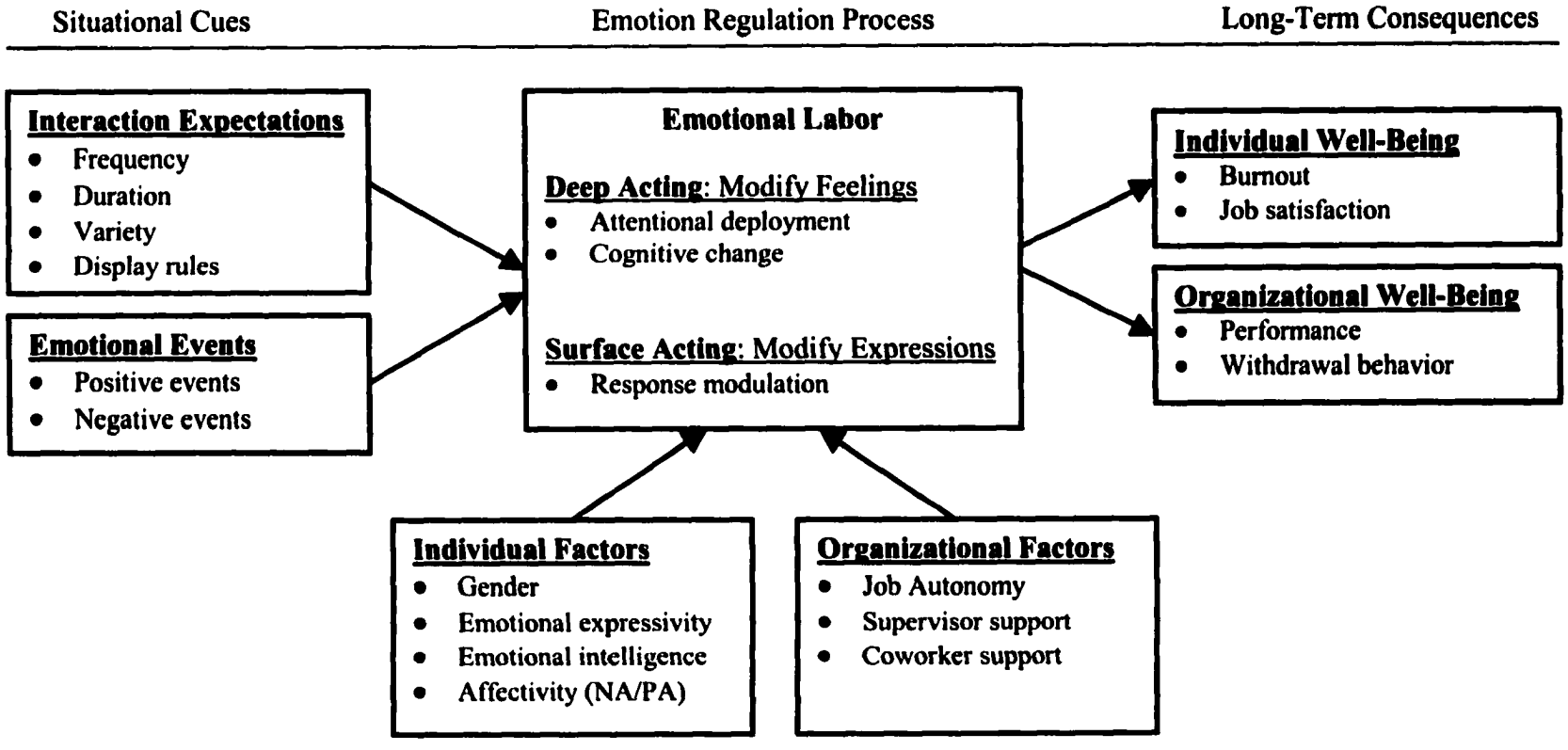
the experience of emotional dissonance (Kruml & Geddes, 2000a, 2000b), which was established as the more adverse form of emotional labor. While the concern for worker well-being is stated, Kruml and Geddes also assert that such endeavors ultimately work in favor of the organization or company by creating a workforce amenable to conditions inherent to service-oriented jobs.

Grandey (2000)

Grandey (2000) proposed a conceptual model (see Figure 2.1) that utilizes emotion regulation theory to characterize the performance of emotional labor. Emotion regulation theory is defined as "the process by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions" (Gross, 1998). This description of emotion regulation theory conforms to the construct of emotional labor as originally described by Hochschild. Emotional labor is operationalized as the process of regulating both feeling and expressions for organizational goals. This definition is not only consistent with Hochschild's work, but also integrates theories of emotional labor since that work. The model provides a comprehensive framework to investigate various dimensions and relationships of emotional labor. Previous efforts were limited in furnishing a wide-ranging perspective and identifying a variety of details that can impact emotional labor. Moreover, the service worker's performance of emotional labor was not necessarily considered central in other perspectives of emotional labor.

Grandey's emotional labor model specifically features the distinction between surface and deep acting. The methods of surface and deep acting embody the emotion regulation process and stand as the pivotal components of the model.

Figure 2.1. Grandey's (2000) proposed conceptual model of emotional labor



Accommodating the difference between the two forms of emotional labor allows investigation as to whether each style variably impacts well-being (in terms of the individual or organization). The understanding that dissimilar processes are involved between the two forms has been conventionally supported since Hochschild's work, but formal examination of them has yet to be published. Incorporating this dichotomized view of emotional labor also serves to test the moderating and mediating effects of emotional labor. The model additionally addresses how antecedent factors influence emotional labor and consequent outcomes for either the individual worker or the organization.

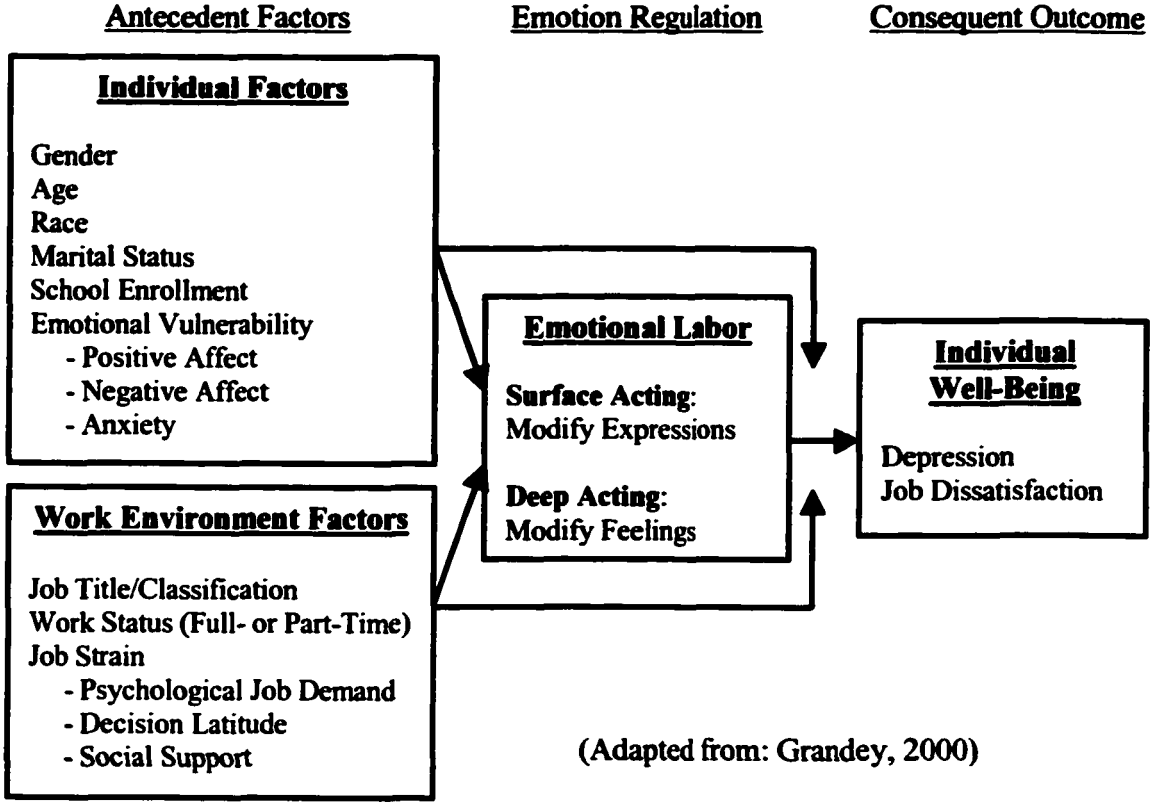
Grandey also includes situational variables inherent to the service interaction that lead to how workers perform emotional labor. The two categories of situational variables that directly impinge on emotional labor are specified as Interaction Expectations (which captures the frequency, duration, variety, and display rules of service interactions) and Emotional Events (which are either positive or negative). Of additional relevance is the inclusion of personal and organizational characteristics that further affect how emotional labor is performed and experienced via the emotion regulation process. Individual Factors (gender, emotional expressivity, emotional intelligence, affectivity) are identified to consider whether certain "types" of people are better suited to perform emotional labor. Organizational Factors (job autonomy, supervisor support, and co-worker support) are taken into account to incorporate work environment factors that also affect emotional labor. Both groups of these characteristics can be thought of as "risk factors" that make emotional labor either more or less harmful to outcome entities. The consideration of these individual and organizational attributes corresponds with a public health

perspective that values the identification of factors that influence how individuals interface with a particular "hazard" or "agent". The model also functions as an inclusive and flexible framework by describing consequent outcomes of emotional labor in terms of both Individual and Organizational Well-Being contexts. While burnout and job satisfaction are listed as outcomes for Individual Well-Being, customer service performance (which impacts maintaining loyal customers and repeat business) and withdrawal behavior (representing absenteeism and turnover intentions) serve as Organizational outcomes.

The breadth and multi-dimensionality of Grandey's Emotional Labor model allows for investigating predictors and consequences of emotional labor, and, to specifically examine if emotional labor mediates the relationship between antecedent or risk factors and certain outcomes. While the model is rooted in psychology, it appropriately captures the essence of occupational health principles by considering a workplace hazard (e.g., surface acting) in combination with risk factors (e.g., affectivity, job strain) and its association with an adverse outcome for a worker's health and well-being. Grandey's model serves well as a guiding framework and has been adapted to conduct this research. The adapted model (see Figure 2.2) isolates some of the processes recognized by Grandey and adds factors that maintain the primary concern for worker health. As such, this research formally tests particular components of Grandey's model, specifically those elements that directly pertain to workers, and thus, contributing to the current theoretical and empirical knowledge of emotional labor.

The adapted model used for this research primarily differs from the broader Grandey model by (1) specifically focusing on individual and organizational factors that

Figure 2.2. Research-adapted conceptual model of emotional labor



(Adapted from: Grandey, 2000)

affect the emotional labor experience and (2) exclusively examining the consequences of emotional labor to individual well-being. Also, certain elements within each area or category (i.e., organizational factors or individual well-being) have been substituted with concepts and variables not explicitly named by Grandey. Despite this difference, the chosen variables still preserve the essence of each "boxed" category. The category of "Individual Factors" is represented by emotional vulnerability (positive affect, negative affect, and anxiety), gender, age, race, marital status, and education. Grandey's "Organizational Factors" has been re-titled as "Work Environment" factors and includes measures of job strain (psychological job demand, decision latitude, and social support),

job title/classification, and work status (full-time or part-time). The two dimensions of emotional labor (surface and deep acting) are measured distinctly and continuously (using the Emotions at Work Scale) which allows the designation of high and low levels. The principal outcomes identified for this research are depression and job dissatisfaction, which compose and focus on "Individual Well-Being".

Quantitative Measurement of Emotional Labor

While many early studies of emotional labor involved qualitative data collection, researchers soon developed quantitative tools to measure the construct. In a study reported by Wharton (1993), a dichotomous variable was used to indicate occupations involving emotional labor based on Hochschild's original classification scheme versus those that did not (recorded as "jobs identified by Hochschild" and "other," respectively). For example, occupations that Hochschild listed as entailing the performance of emotional labor include registered nurses, clergymen and religious workers, teachers, public relations and publicity writers, bank tellers, receptionists, housekeepers, and waiters, to name a few. In Wharton's study, the sample (n = 622) included a variety of bank and hospital workers, which was predominantly white (96%) and women (83%) with a mean age of 37.97 years. Wharton also reported that 64% of the sample held jobs according to the Hochschild classification. Subsequent analysis, reported by Wharton and Erickson (1995), used a subset (n = 285) from this larger sample consisting of only women hospital workers who were either married or cohabiting with male partners (because the study objective involved the examination of emotion work performed by women within both job and "family" contexts). Two subjective items were used to measure the "amount" of emotional labor performed at work. The items posed to study

participants were summarized by the authors as (1) "estimate how much of their time at work was spent engaged with other people" and (2) "[for] those who worked with people to describe the nature of these relations (e.g., respondent works with customers or clients, supervises other employees, etc.)." From responses, three categorical variables were created: (1) "emotional labor," for those reporting almost all of their time was spent with clients/customers; (2) "some emotional labor," for those spending some time with clients/customers or almost all of their time engaged with people, but not primarily clients/customers; and (3) "no emotional labor," for those having jobs not requiring interacting with people in any way. The authors further reported that those falling into the "emotional labor" category made up nearly 45% of the sample.

An emotional labor index was generated by Adelmann (1995) in a study of table servers ($n = 90$) largely comprised of women (85.5%). Identifiers related to race/ethnicity were not collected while other demographic characteristics were not reported in the manuscript. The index was based on responses to two sets of phrases to determine degree of job performance related to (1) "having to produce an emotional state in another person" and (2) "expressive behavior and feeling as controlled by the job." The former was assessed with the phrases, "to make the customer feel important" and "to make the customer like and trust you." The latter was assessed with the phrases, "to smile and behave in a friendly manner toward the customer" and "to conceal any negative feelings about the customer" vs. "to try to feel sympathy and understanding for the customer" and "to actually feel friendly and warm toward the customer." Each item was rated from one ("not at all") to four ("very much") with the total mean used as the emotional labor index. The reported sample mean, standard deviation, and internal

reliability were reported to be 3.09, 0.63, and 0.75, respectively. While the emotional labor index developed by Adelmann (1995) was a notable step toward creating a quantitative measure, it only provided a collective score that did not separate the components of surface acting and deep acting or other aspects of emotional labor (i.e., amount of time, intensity, etc.).

Pugliesi and Shook (1997), in a study of various public university employees (i.e., faculty and administrative staff) (n = 1,114), employed two sets of quantitative measures for emotional labor that encompassed both clients/customers and co-workers. The first set assessed how participants described their jobs using three items: (1) "I am unable to express my true feelings to co-workers;" (2) "I am required to be 'artificially friendly' to clients or students;" and (3) "I have to be nice to people no matter how they treat me;" all rated on a four point scale. The second set assessed 'amount of time spent' on certain tasks and focused primarily on co-worker relations using four items: (1) "Attempt to keep the peace by calming personality clashes between co-workers;" (2) "Help co-workers deal with stresses and difficulties at work;" (3) "Cover or manage my own feelings so as to appear pleasant at work;" and (4) "Help co-workers feel better about themselves;" all rated from one ("spend no time") to five ("spend a lot of time"). While the authors stated that these items were generated from focus groups previously held with occupational groups representative of those comprising the actual study sample, no specific details of the process of development or psychometric evaluation are offered. They do make clear that the items and investigation primarily centered on emotional labor in relation to co-workers rather than to clients/customers (acknowledging that most previous research has concentrated on the latter). In addition, mention is made that "measuring emotional labor

was not an objective of the study." The primary focus was the nature of context and distribution of several distinct forms of emotional labor (as characterized separately by the seven items listed above), particularly in terms of gender and job characteristics. In this sense, surface acting and deep acting were not precisely recognized as "forms" of emotional labor.

Kruml and Geddes (2000a) took a more formal approach to developing an instrument to quantitatively measure aspects of emotional labor. Sources for item development included interviews performed and presented by Hochschild and interviews conducted with service workers. After a series of reviews, revision, and factor analyses, a two-item "emotive dissonance" scale and a four-item "emotive effort" scale were ultimately derived, with responses on a five-point scale, one ("never") to five ("always"). The items for the "emotive dissonance" scale were: (1) "I show the same feelings to customers that I feel inside" and (2) "The emotions I show the customer match what I truly feel." The items for the "emotive effort" scale were: (1) "I try to talk myself out of feeling what I really feel when helping customers;" (2) "I work at conjuring up the feelings I need to show to customers;" (3) "I try to change my actual feelings to match those that I must express to customers;" and (4) "When working with customers, I attempt to create certain emotions in myself that present the image my company desires." Analysis was undertaken using an organizationally, occupationally, and geographically diverse sample ($n = 427$) of service workers (e.g., customer service representatives, collections agents, stockbrokers, police officers, and various levels of school teachers) that was mostly women (70%) and caucasian (94%) with a (reported) median age range of 25 to 34 years. Reported Cronbach's alpha for "emotive dissonance" and "emotive

effort" were 0.68 and 0.66, respectively (Kruml & Geddes, 2000a, 2000b). The Kruml and Geddes scales clearly seek to depict emotional labor in relation to the customer or client as well as test these scales by collecting data from a working population representing a variety of demographic and occupational characteristics. More importantly, the authors recognize that the factors, "emotive dissonance" and "emotive effort", effectively parallel Hochschild's original surface acting and deep acting dimensions, respectively. As such, this particular quantitative survey instrument allows for the distinct measurement of factors consistent with and representative of the two-dimensional construct of emotional labor according to Hochschild's conceptualization.

Another quantitative scale of emotional labor that distinctly measures surface acting and deep acting was offered by Brotheridge and Lee (2002; Brotheridge & Grandey, 2002). Three items are used to measure each dimension using a five-point scale: one ("never") to five ("always"). For surface acting, the items were: (1) "Resist expressing my true feelings;" (2) "Pretend to have emotions that I don't really have;" and (3) "Hide my true feelings about a situation." Deep acting was captured with the items: (1) "Make an effort to actually feel the emotions that I need to display to others;" (2) "Try to actually experience the emotions that I must show;" and (3) "Really try to feel the emotions I have to show as part of my job." Development of these items were reported to have included review of the emotional labor literature focusing on emotion regulation concepts and subjective examination by emotion researchers and revealed two independent factors through factor analyses (Brotheridge & Grandey, 2002). Brotheridge and Lee (2002), in a study of a sample of family members of undergraduate marketing students in Canada, reported a Cronbach's alpha for surface acting of 0.89 and

for deep acting of 0.86. Participants were expected to be working full-time in jobs that required interaction with customers as part of their work role. The sample (n = 236) was reported to include a heterogeneous group of occupations (e.g., sales clerks, restaurant servers, health professionals, and office workers) that was approximately half female with a mean age of 27 years and six years of occupational experience. In additional research (described as essentially the same sample), Brotheridge and Grandey (2002) reported Cronbach's alphas of 0.74 and 0.83, respectively, using the scales described above. It should also be noted that the complete Brotheridge and Lee Emotional Labour Scale does include items designed to measure additional aspects of emotional labor in addition to the components of surface and deep acting (e.g., duration, intensity, variety).

Further, in another study that also utilized the Brotheridge and Lee surface acting and deep acting measures, Holman et al. (2002) reported Cronbach's alphas of 0.85 for surface acting and 0.90 for deep acting. This research was conducted with a sample of bank call center employees in the United Kingdom. The sample (n = 347) was mostly female (70.6%) with a mean age of 32 years and mean job tenure of 28 months. Reflecting on the Brotheridge and Lee Emotional Labour Scale, additional assurance is provided that measuring the distinct dimensions of surface acting and deep acting is essential in researching emotional labor.

Emotional Labor and Emotional Vulnerability

Individual worker characteristics must be considered when investigating the health effects of employment on worker health. Considering the effects of emotional labor, the inclusion of personal characteristics related to emotion states and encounters is imperative. Distinct individual features linked to emotional stability, such as affectivity

and anxiety, are relevant to the notion that emotional labor can be a stressful process and is associated with negative psychosocial conditions.

Emotional labor theorists suggest that affectivity (positive and negative) significantly influences emotional dissonance (Grandey, 2000; Morris & Feldman, 1996). Individuals may be better suited for their occupational positions and work roles when there is convergence between the expected emotional expression on their jobs and their own predisposition to experience the same type of emotions. Should affectivity conflict with emotional labor expectations, workers may have experiences detrimental to their psychological well-being.

Morris and Feldman (1996) theorize that positive affectivity will be positively correlated with emotional dissonance when the required expression is a negative emotion (e.g., bill collectors, police officers) and, the converse, that negative affectivity will be positively correlated with emotional dissonance when the required expression is a positive emotion (e.g., flight attendants, telemarketers). Research by Abraham (1999a) examined the influence of affectivity on emotional labor and found that negative affectivity positively moderated the relationship between emotional dissonance and job dissatisfaction. Additionally, another study by Schaubroeck and Jones (2000) operationalized emotional labor into two aspects: the demand to express positive emotions and the demand to suppress negative emotions. They found that trait positive affectivity was found to be negatively associated with perceived role expectations (demands) to suppress negative emotions while trait negative affectivity was positively associated with perceived role expectations (demands) to suppress negative emotions.

They concluded that dispositional variables, such as affectivity, appear to be plausible antecedents of perceived emotional labor.

Anxiety was also theorized to result from emotional labor (Hochschild, 1983; Morris & Feldman, 1996). High (job) role identification may lead individuals to define themselves in terms of organizational roles and thus, internalize role obligations imposed through feeling and display rules. In this condition, the inability to fulfill these obligations may result in feelings of anxiety (Ashforth & Humphrey, 1993). Young workers, though, may not comparably fit the same mold as those who highly identify with organizational roles because they typically hold more temporary type jobs not necessarily rooted in career plans or occupy positions very early in their career by virtue of age and work tenure. This population of workers may actually bring a certain level of anxiety to the workplace secondary to occupational inexperience and family and school stressors. The nature of service employment requires that workers cope with anxiety, whether produced on or off the job, in order to appropriately participate in and deliver quality service interactions. The demands of emotional labor, thus, may be a source of or exacerbate anxiety levels among young front-line interactive service workers. Further adding support to the possibility of a relationship between emotional labor and anxiety, Holman, Chissick, and Totterdell (2002) reported a positive association between job-related anxiety and the two distinct forms of emotional labor, surface acting and deep acting, in a cross-sectional study of banking call service agents.

Personal worker attributes can influence their emotional experience on the job. Among service workers, characteristics such as affectivity and anxiety may have a significant influence on how they perform and experience emotional labor. Specific

types of individual characteristics (e.g., positive affect and low anxiety) may be better suited to deal with the emotional labor demands related to interactive service employment.

Emotional Labor and Job Strain

The Job Strain or Demand-Control Model developed by Karasek (1979; Karasek & Theorell, 1990) posits that deleterious strain will occur when high physical and psychological demands on the job (the pace, effort, and volume of work) coexist with organizational barriers and policies that inhibit an individual's authority to make decisions concerning work (decision authority) or the use of skills at work (skill discretion). Johnson and Hall (1988) expanded the model to include social support from coworkers and supervisors; they have shown that the greatest risk of strain and physical illness is for those workers with high demands, low control, and low social support.

A growing body of research suggests that job strain and job autonomy ought to be considered when psychosocial outcomes are related to emotional labor (Abraham, 2000; Grandey, 2000; Morris & Feldman, 1996). Employer regulation over an employee's emotional displays may become problematic because workers' spontaneous emotions in reaction to immediate circumstances are inhibited and must conform to "scripted" interactions (Wharton, 1999). Limitations on worker control and autonomy over the work role are especially evident and explicit for service workers. Moreover, organizational resources may not be readily available to assist service workers to exercise control during service interactions, consequently intensifying the demand to perform emotional labor (Leidner, 1993). Additionally, employers typically develop a predestined culture of organizational control over service workers by establishing explicit

conditions for the recruitment (advertising job openings for a certain personality type), selection (hiring applicants who match the emotional expectations of the position), and socialization practices (formal training and informal modeling through co-workers) of employees (Ashforth & Humphrey, 1993; Callaghan & Thompson, 2002).

Ashforth and Humphrey (1993) and Kruml and Geddes (2000a, 2000b) suggest that latitude for self-expression in the performance of emotional labor will be positively associated with personal well-being. This can be translated to the idea that workers in emotional labor jobs who report high job autonomy will have better well-being outcomes. Possessing the freedom of self-expression provides workers a means to stay true to their own emotions/feelings and not have to alter or conceal them in any way under organizationally imposed demands. Consistent with this position, Wharton (1993) posited that workers with high job autonomy were less likely to experience adverse effects on well-being. In a survey of hospital and bank employees, Wharton found that those who performed emotional labor under conditions of high job autonomy reported higher levels of job satisfaction, while those who reported low job autonomy were at higher risk for emotional exhaustion compared to other workers who performed emotional labor. Additional research on the same study population revealed that the more perceived control an individual has over the work process the less likely work is viewed as an inauthenticating experience (Erickson & Wharton, 1997).

Morris and Feldman (1996) more specifically suggest that the degree of job autonomy is an important antecedent to emotional dissonance and job satisfaction. They propose that workers with more autonomy over their expressive behavior may be more likely to violate display rules when these rules conflict with their own genuinely felt

emotions. Therefore, employees with more job autonomy should experience less emotional dissonance, and thus, greater job satisfaction. Further investigation of this proposition among a sample of military recruiters, nurse, and debt collectors found that the inverse relationship between job autonomy and emotional dissonance was statistically significant. Employees who reported more control over service interactions were less likely to express emotions that conflicted with their felt emotions (Morris & Feldman, 1997). Subsequent research among a sample of telecommunication workers, entertainment, food service, and clothing retail workers also found that job autonomy was inversely related to emotional dissonance (Abraham, 1998).

Additional research has been conducted on job control in the context of emotional labor. Tolich (1993), in a study of grocery clerks, highlighted the issue of control over emotion management and suggested that this management can be dichotomized as "regulated emotion management" (control by another person, such as one's employer) and "autonomous emotion management" (control by the individual). These forms of control, as proposed, impinge on the worker's estrangement from his or her own emotions and should be included in studies related to emotional labor. Pugliesi (1999) also stressed the importance of job control in service employment and characterized emotional labor as having two dimensions of control – "self-focused" and "other-focused." "Self-focused" emotional labor was defined as the management of one's own feelings, while "other-focused" referred to the management of the feelings of others, such as clients/customers or co-workers. Pugliesi found that workers reporting high "self-focused" control were negatively associated with job control and positively associated with job demands.

The role of social support has also been incorporated into research on emotional labor. Social support enables individuals to better cope with job stressors such as emotional labor and to increase their sense of personal control. Morris and Feldman (1996) posited that social support enables individuals to better cope with job stress related to emotional labor and increase their sense of personal control. Supportive social relationships may allow emotional laborers to rely on others for aid when they experience dissonance between felt emotions and those demanded or expected by the organization for which they work. This view reflects Hochschild's original conception of the function of "social support" among flight attendants that enabled them to deal with difficult and demanding passengers while maintaining the expected friendly demeanor. Abraham (1998) investigated the effect of social support and found that it moderated the effects of emotional dissonance on job satisfaction. An additional finding was that among workers reporting high social support, social support prevented emotional dissonance from adversely affecting job satisfaction. Karabanow (2000) also considered the role of co-worker social support and found that the negative effects of emotional labor were minimized when workers felt a sense of support and solidarity within the work setting.

These examples illustrate the importance of considering organizational factors such as job demand, job autonomy, and social support when investigating the impact of emotional labor. While they provide some direction to incorporate the construct of job strain, some gaps still exist. Studies of emotional labor have not utilized concepts of the Job Strain Model. Moreover, these studies have traditionally examined white, adult working populations and have not included working youth who may be employed part-

time while in high school or as they pursue further education and work, either part- or full-time.

The consideration of job strain and its specific components is appropriately relevant when examining emotional labor. The nature of service work is likely to threaten the well-being of workers through significantly high demands to have and express organizationally desired emotions, low control over what emotions can be felt and displayed, and the lack of social support from supervisors and co-workers. The distinct levels of each of these elements shape the emotional labor experience of workers and consequently influences outcomes such as psychological stress and job satisfaction.

Emotional Labor and Depression

Depression has been recognized as a valid, existent condition among youth (Birmaher, Ryan, Williamson, Brent, & Kaufman, 1996; Petersen, Compas, Brooks-Gunn, Stemmler, Ey, & Grant, 1993). Estimates of the prevalence of depressive symptoms among adolescents have been reported to be between 5-40% (Merikangas & Angst, 1995; Poznanski & Mokros, 1994; Rushton, Forcier, & Schectman, 2002). Major depressive disorder is estimated to be less than this, but still noteworthy with a range of 2-6% (Garber, 2000; Poznanski & Mokros, 1994).

Depression during teenage years and young adulthood can be influenced by life stressors related to social factors such as race, gender, socio-economic status, academics, and family life (Albright, 1999; Pine, Cohen, Johnson, & Brooks, 2002; Garrison, Jackson, Marsteller, McKeown, & Addy, 1990; Garrison, Schluchter, Schoenbach, & Kaplan, 1989). Further, depressive symptoms can be persistent (Patten, Choi, Vickers, & Pierce, 2001) and become progressively worse during this transitional period of life

(Garber, 2000). Secondary to developmental factors, individuals may not be psychosocially mature and, thus, can be more prone to experience depression or depressed moods (US-DHHS, 1999). In addition, youth may not possess the coping skills (Pellegrini, 1990) useful in dealing with events that may lead to depressed states. Among working youth, work-related experiences must also be considered as a potential source of depression (Shanahan et al., 1991). Those workers who specifically deal with the stressful requirement to regulate emotions as a job duty or function may be at increased risk for such an outcome.

Emotional labor entails some form of emotion regulation either through surface acting or deep acting. As explained, surface acting involves pretending or adjusting one's outward expression while deep acting characterizes the act of modifying one's actual feelings or emotions. Because surface acting requires service workers to be "fake" on the job, it results in dissonance between felt emotion and that which is expressed. This dissonance, as a result of regular or chronic surface acting, is thought to lead to negative psychological outcomes for workers, particularly depression (Hochschild, 1983; Wharton, 1999). Surface acting, in this sense, can be likened to inauthenticity (Grandey, 2000; Wharton, 1999). Work that requires emotional labor, particularly surface acting, consequently negatively impacts the worker's identity or sense of self (Ashforth & Humphrey, 1993; Hochschild, 1983; Leidner, 1993) and poses the threat of depression.

Erickson and Wharton (1997), in a study of bank and hospital employees, found that inauthenticity was a strong predictor of depressed mood. Moreover, inauthenticity mediated the relationships between the independent variables of job control (autonomy) and amount of time working with people (service recipient) and the dependent variable of

depression. Job control and amount of time working were both negatively associated with depressed mood, but when inauthenticity was included in regression models, these negative relationships were considerably lessened and no longer statistically significant. The authors thus concluded that inauthenticity explained the outcome of depression. Spratt (1996) also found that for family day care workers, high emotional labor was predictive of depression. More specifically, Holman et al. (2002) reported a positive association specifically between surface acting and job-related depression, while deep acting was negatively related (though not statistically significant). This finding further lends support to the notion that faking, or inauthenticity, is more likely to lead to depression.

Emotional labor can be associated with depression among service workers, particularly because of feeling inauthentic or phony on the job. The experience of emotional dissonance through surface acting is thought to produce this state. The circumstance of less mature psychosocial development to deal with emotional labor demands may be a risk factor for young workers in relation to depression.

Emotional Labor and Job Dissatisfaction

Job satisfaction reflects how workers evaluate the experience of their job. How workers relate to various demands, duties, and roles encountered on the job determines the level of satisfaction. The degree of satisfaction may vary as a function of situational matters and personal skills and coping strategies. Though the construct of job satisfaction does not precisely measure a "health" outcome, it has often served as a proxy for employee well-being at work by researchers (Grandey, 2000). As job satisfaction has been used as a pertinent measure within occupational research, it is especially important

to examine among service workers, in view of the nature and contexts associated with emotional labor.

Researchers suggest that emotional labor adversely impacts on job satisfaction (Hochschild, 1983; Pugliesi & Shook, 1997). The investigation of the relationship between emotional labor and job satisfaction, though, requires the consideration of worker control or autonomy. Because emotional labor involves a substantial amount of (formal and informal) feeling and display rules, the limitations on worker autonomy influences how workers react to performing emotional labor. This reaction, in turn, manifests in the degree of job satisfaction. Morris and Feldman (1996) suggest that job autonomy is antecedent to emotional dissonance and that emotional dissonance likely leads to lower job satisfaction. They found in a study of military recruiters, nurses, and debt collectors that the higher the emotional dissonance the lower the job satisfaction, controlling for job category, gender, and tenure (Morris & Feldman, 1997). Abraham also concluded that emotional dissonance is negatively associated with job satisfaction (1998) and later found that emotional dissonance induced job dissatisfaction that, in turn, stimulated intention to turnover (i.e., resignation from the job) (1999b). In a study that examined "self-focused" emotional labor (defined as the management of one's own feelings for the job), Pugliesi (1999) found a negative association with job satisfaction independent of other job conditions such as job demands, control, and complexity. Two additional job-related outcomes that reflect job satisfaction are personal accomplishment and job involvement. Consistent with the studies mentioned, workers reporting high emotive dissonance, which researchers equated to surface acting, also reported negative personal accomplishment and less job involvement (Kruml & Geddes, 2000b).

Demands and requirements related to emotional labor may act to threaten the work experience of service employees. How workers evaluate this experience can be assessed through job satisfaction. Job satisfaction, as another measure of individual well-being, has been found to be negatively associated with emotional labor, specifically that which results in emotional dissonance like surface acting. This relationship clearly reveals the potentially unpleasant nature of service employment in which emotional labor is unavoidable.

SUMMARY

The occupational experience of young workers can have profound impact on their health and well-being. Factors related to both worker characteristics and workplace environments make them distinctly vulnerable to illness and injury. Issues related to psychosocial development (i.e., building self-image, inappropriate decision-making) coupled with certain behavioral displays (i.e., proving independence, risk taking) can easily place youth at higher risk in work contexts. Further, as emotional maturity and social competence develop during teenage and young adult years, workplace stressors can impose negative effects on essential transitions through this period in life. Therefore, as a group, youth employed in interactive service jobs may disproportionately face "hazards" that are unique to these work roles and settings.

An extension of this concern is the growing service economy and resultant proliferation of service-oriented jobs in current times and into the projected future. Clearly the move from an economy driven by manufacturing industries to one dominated by service industries has taken place in the U.S. and hails as its prevailing character. Recognizing this shift in the "work" experience of the general American workforce, the

changing nature of work-related hazards must also be considered. Emotional labor has come to be known as an appreciable aspect of work involving direct interactions with clients and customers that can be damaging to health and well-being leading to adverse psychosocial outcomes. These relationships reveal the potential unpleasantness of service employment in which the performance of emotional labor is unavoidable. While personal worker attributes (i.e., affectivity and anxiety level) can influence the emotional experience on the job, emotional labor is also likely to threaten the well-being of workers through significantly high demands to express organizationally desired emotions, low control over what emotions can be felt and displayed, and deficiencies in social support from supervisors and co-workers. Formal scientific investigation of emotional labor is necessary to understand its effects on worker populations. While conceptual models featuring emotional labor are available to guide such research, discrimination between them based on utility and application in relation to identified study objectives and hypotheses is essential.

CHAPTER THREE: METHODOLOGY

OVERVIEW

This research study is a direct outgrowth of the ongoing work of Drs. Craig Ewart and Sheila T. Fitzgerald, who developed and fostered the Project Heart research program for the past 10 years. The goal of Project Heart has been the longitudinal study of emotional and behavioral risk factors for chronic illness, particularly cardiovascular disease, among Baltimore City youth. Dr. Fitzgerald is currently funded by the Centers for Disease Control and Prevention (CDC)/National Institute for Occupational Safety and Health (NIOSH) as part of the National Occupational Research Agenda (NORA) initiative. This research is based on analysis of portions of the data collected through the Project Heart study (specifically Project Heart 4) and focuses on the contributions of the work environment to the psychological well-being of this study population. Approval to conduct this research was obtained from the Johns Hopkins Bloomberg School of Public Health, Office for Research Subjects, Committee on Human Research (CHR #: H.18.01.11.08.A, expiration date: 12/2/2002).

The study sample for this research consists of a sub-set of participants currently enrolled in Project Heart 4, all of whom had been enrolled at one time in previous Project Heart studies (Project Heart 1-3). Project Heart participants are recruited from Baltimore City magnate high schools and closely resemble the gender and racial make-up of the city's high school aged population. Since Project Heart 4 includes participants from previous Project Heart cohorts, many are no longer in high school and have moved on to further education (e.g., college) and/or more advanced-level employment. As such, the

sample for this research reflects a wider age range and variety of job titles compared to each of the previous Project Heart investigations.

The specific purpose of this study was to examine the experience of emotional labor in a group of young workers and its relationship to measures of individual personality, job strain, and the psychosocial outcomes of depression and job dissatisfaction. The association between surface acting with both depression and job dissatisfaction was hypothesized to be positive, while high deep acting was hypothesized to be negatively associated with these outcomes. Also, the hypothesis that emotional labor, specifically surface acting, functions as a mediating variable between the independent measures of individual personality (positive affect, negative affect, and state anxiety) and job strain (psychological job demand, decision latitude, and social support) and each of the dependent outcomes of depression and job dissatisfaction was tested. This research was the first specific investigation of emotional labor within the Project Heart efforts and the first known study of emotional labor among a sample of young workers.

The primary phase of this study was the examination of the psychometric properties of the Emotions at Work Scale (EWS) (Spratt, 1996) to assess its utility to measure emotional labor among a sample of younger aged workers. The Project Heart 4 investigation incorporated the Emotions at Work Scale (EWS) to expand the measurement of the psychosocial work environment. Though the EWS was a recently developed, unpublished instrument, it was made available to Project Heart investigators at a time when no other emotional labor scales were formally published and the research literature was limited. Since the EWS had not been tested among a sample similar to that

used for this research, psychometric evaluation of this instrument was necessary. The second phase of this study involved the cross-sectional analysis of data collected through the Project Heart 4 research project that relate directly to emotional labor and its relationship to measures of affect, anxiety, job strain, depression, job dissatisfaction, and socio-demographic and job-related characteristics.

PHASE ONE: REFINEMENT OF THE EWS EMOTIONAL LABOR SCALE

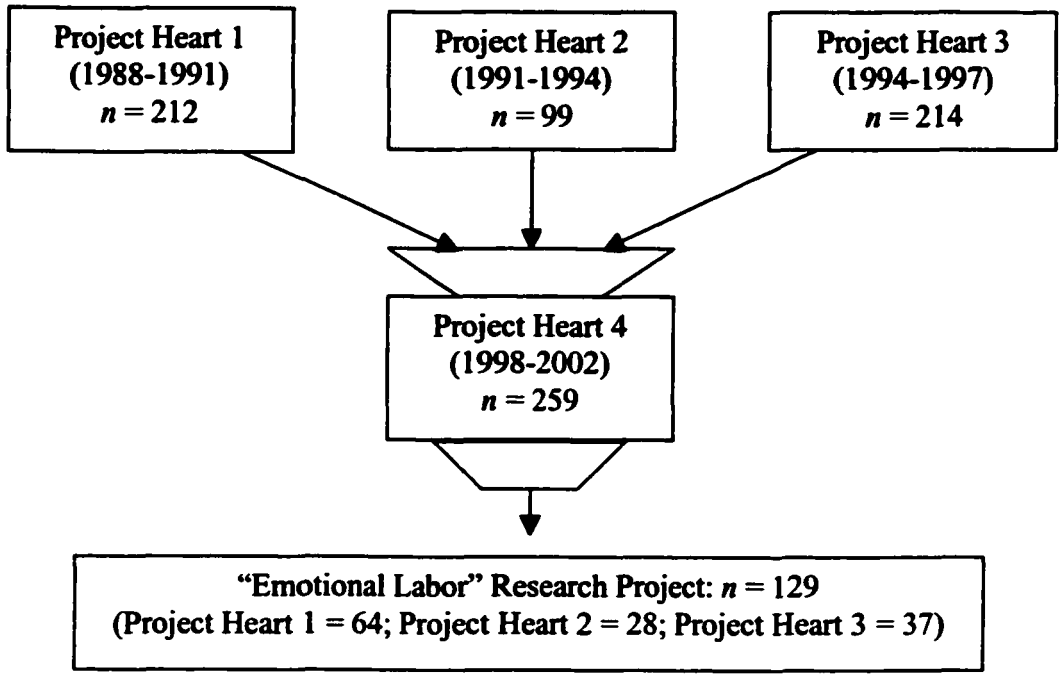
INTRODUCTION

As a component of Project Heart 4, data were collected to measure emotional labor using the Emotions at Work Scale (EWS). Because of its recent development in relation to its implementation into Project Heart 4, the psychometric properties for its utility for a sample of younger aged workers had not been analyzed. Since the EWS had not been previously tested among a sample similar to that used for this research, psychometric testing of this instrument was necessary prior to its use for the analysis undertaken in phase two.

PARTICIPANTS

The study sample for this stage of the research is a sub-set of participants from the current, active Project Heart 4 study. Participants for Project Heart 4 were directly recruited from previous Project Heart studies (Project Heart 1 through 3), which were independent studies that primarily examined cardiovascular disease risk among cohorts of Baltimore City magnate high school students. Figure 3.1 illustrates how the sample of participants (n = 129) for this research, as well as for Project Heart 4, were obtained from previous Project Heart research projects. Selection criterion for this specific secondary data analysis of psychometric properties was the completion of the Emotions at Work

Figure 3.1. Recruitment of participants for research from Project Heart studies used for phase one



Scale (which included the emotional labor items). The sample was racially diverse (68.9% African-American, 29.5% Caucasian, 0.8% Asian-American, and 0.8% Hispanic-American), consisted of mostly female participants (69%), had a mean age of 22.7 years (range: 17-28), and represented an assortment of occupational classifications (e.g., sales, service, administrative support, professional/technical, laborers, and managers). Additionally, of these 129 participants, 31 were available to complete the Emotions at Work Scale at a subsequent date intentionally for the purposes of examining test-retest reliability of the scale.

MEASURES

Spratt (1996) (under the direction of Dr. Barbara Curbow) developed the Emotions at Work Scale (EWS) for her doctoral research on the emotional work

experience of child care workers in the State of Maryland. The EWS includes a scale consisting of 13 items designed to measure emotional labor, which meets a need identified by other researchers of emotional labor (Erickson & Wharton, 1997; Wharton, 1993). The emotional labor scale, though not reported to have been used in other research, provides an alternative to quantitatively measure the construct, which typically had been examined qualitatively.

The items were developed using theoretical information from literature available at the time of Spratt and Curbow's research and statewide focus groups of family day care providers (childcare) in Maryland. The scale originally consisted of 23 items and was pre-tested (along with the entire EWS) among nurses (n = 8) and secretaries/administrative assistants (n = 15), occupations considered to involve emotion work. With this pre-test, Cronbach's alpha for the emotional labor scale was reported to be 0.88. The emotional labor scale was subsequently reduced to 13 items after inter-item correlation analysis was carried out. The 13-item emotional labor scale (as part of the entire EWS) was subsequently pilot-tested among a random sample of childcare providers (n = 179) throughout the state of Maryland and Cronbach's alpha was reported to equal 0.81. In addition, mean inter-item correlation of the emotional labor sub-scale was calculated and equaled 0.24.

Factor analysis was then performed using the 13-item emotional labor scale and resulted in four distinct components ("acting," "effort," "judged," and "training"). Content validity was established by discussing scale items with researchers of emotional labor and a convenience sample of female case managers for HIV positive women. Convergent validity, determined by examining the correlation between the emotional

labor scale and the related measures of role overload and job demands, was reported at $r = 0.23$ ($p = 0.01$) and 0.30 ($p = 0.001$), respectively. These correlations indicated "moderate" convergent validity by showing significant correlations with two related measures.

PROCEDURES

Data Collection

The Emotions at Work Scale (EWS) was administered as part of the Project Heart 4 investigation. The entire EWS was included in a self-administered questionnaire that was mailed or personally distributed to each of the former Project Heart participants recruited for Project Heart 4. Participants were asked to respond to all items of the EWS, which included the 13-item emotional labor sub-scale. Identification codes that were assigned on entry into the original Project Heart studies were used again to identify these questionnaires. Each questionnaire was checked for completeness and follow-up telephone calls were made to obtain additional missing information. All hard copy versions of the questionnaire are maintained in locked file cabinets with access limited only to Project Heart research team members and the investigator of this research. Coded responses from hard copy surveys were imputed into SPSS, version 10.0 statistical software by trained Project Heart staff to create master computer files of Project Heart data. Data were double-entered to ensure accuracy and completeness. Data files were stored on password protected computer hard drives and backup diskettes kept in locked boxes within the office of Dr. Fitzgerald, principal investigator of the Project Heart 4 study.

Data relevant for this research were made available to this investigator by Dr. Fitzgerald. Data files were drawn directly from the master computer files and copied onto diskettes also in SPSS format. These derived files were also stored on password protected computer hard drives and backups stored under lock and key.

Missing Data

Missing values in the emotional labor scale were replaced with the series mean. The mean value was calculated from the available responses to the corresponding item provided by all other respondents. For those participants with missing values, the decision to add them to the sample considered the following: (1) each participant's item contribution to each of the four factors identified by Spratt and Curbow, and (2) each participant's overall item contribution to the entire 13-item scale. If more than half of the number of items within each factor was completed, the participant qualified for inclusion and the sample mean of the corresponding item was substituted for the missing value. The same criterion was also applied to each participant's contribution to the entire 13-item scale for comparison. Mean substitution provides a simple and conservative method to resolve the issue of missing data because it maintains the characteristics of scale distribution resulting from the responses provided by the majority of study participants (Babbie, 1979; Little & Rubin, 1987). Assessing per-item completion, the number of missing responses ranged from one to two for each item within the emotional labor scale.

Analysis

Primary Factor Analysis

Primary factor analysis was performed with SPSS version 10.0 statistical computer software using the varimax method. Factor analysis was first carried out using

the entire 13-item emotional labor scale. After reviewing results of this factor analysis, consideration was made to instruct SPSS to "force" the factor analysis into two factors in order to differentiate between factors of surface acting and deep acting. Subsequent reliability and internal consistency analyses were undertaken for each of these types of factor analyses. Criteria offered by Robinson, Shaver, and Wrightsman (1991), listed in Table 3.1, were used to assess and evaluate the psychometric utility of each resultant factor (surface acting and deep acting) representing grouped sub-scale items based on the mean inter-item correlation and Cronbach's coefficient alpha.

Table 3.1. Criteria for determining qualitative value of selected psychometric properties

Criterion Rating	Exemplary	Extensive	Moderate	Minimal
Inter-Item Correlation	0.30 or better	0.20-0.29	0.10-0.19	below 0.10
Cronbach's Coefficient α	0.80 or better	0.70-0.79	0.60-0.69	below 0.60
Test-Retest Reliability	0.50 or better (1 year)	0.40 or better (3-12 mos.)	0.30 or better (1-3 mos.)	0.20 or better (< 1 mo.)

(Robinson, Shaver, & Wrightsman, 1991)

Scale Refinement and Secondary Factor Analysis

As a step in the process of scale refinement, results of the preliminary factor and reliability and internal consistency analyses were shared with researchers knowledgeable about the construct of emotional labor and familiar with the Emotions at Work Scale. Most notably, Alicia A. Grandey, Ph.D., Department of Psychology, Pennsylvania State University and developer of the conceptual model used to guide this research was consulted. After her review, recommendations, based on theoretical considerations, were

offered regarding the arrangement of emotional labor items into surface acting and deep acting factors. Subsequent testing of psychometric properties, particularly mean inter-item correlation and Cronbach's coefficient alpha, were performed on these recommended factors again using SPSS, version 10.0 statistical computer software.

Pearson's product moment correlation coefficients (two-tailed) were also computed for each of the surface acting, deep acting, and total emotional labor (surface acting + deep acting) scores between the specific factors derived from the primary factor analysis and the subsequent Grandey-suggested factors. Additionally, scores for the Grandey-suggested factors of surface acting and deep acting were correlated with scores for the originally developed Spratt-Curbow factors named "acting" and "effort" (considered to relatively and comparatively correspond with surface acting and deep acting), respectively for the purpose as another check for the refined emotional labor scale specifically used for this research.

Test-Retest Reliability

Test-retest reliability was performed using SPSS, version 10.0 statistical computer software. Bivariate correlation analysis was examined for a sample of 31 Project Heart 4 participants who had completed the emotional labor scale at two different points in time. Mean time interval between test and retest dates was determined. Individual participant's total scores for items comprising each of the two identified emotional labor factors (surface acting and deep acting) were calculated at each test time. Pearson's correlation between the mean scores for each emotional labor factor at test and retest times were computed. Criteria offered by Robinson et al. (1991) (see Table 3.1, above) were used to

assess the test-retest reliability of the emotional labor scale for its use as a two-factor scale (surface acting and deep acting) with the identified study population.

PHASE TWO: HYPOTHESIS TESTING AND CROSS-SECTIONAL ANALYSIS

INTRODUCTION

The second phase of this study involved the cross-sectional analysis of data collected through the Project Heart 4 research project that relate directly to emotional labor and its relationship to measures of affect, anxiety, job strain, depression, job dissatisfaction, and socio-demographic and job-related characteristics.

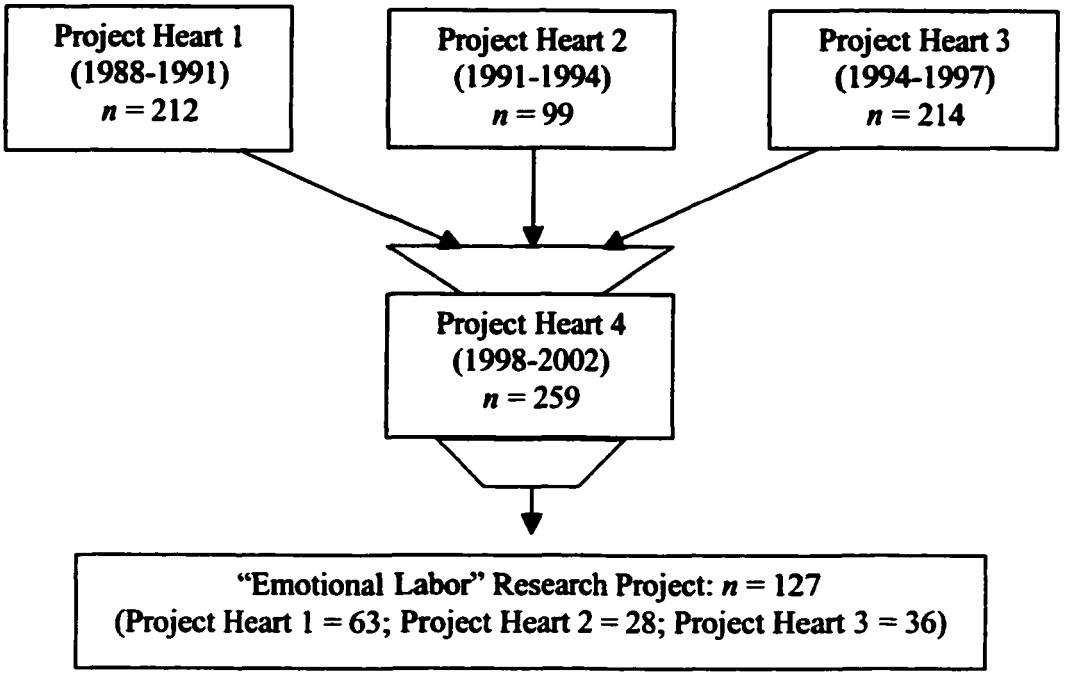
PARTICIPANTS

The study population for this research was a sub-set of participants from the current, active Project Heart 4 study. Participants for Project Heart 4 were directly recruited from previous Project Heart studies (Project Heart 1 through 3), which were independent studies that primarily examined cardiovascular disease risk among cohorts of Baltimore City magnate high school students. Figure 3.2 illustrates how the sample of participants for this research, as well as for Project Heart 4, were obtained from previous Project Heart research projects. Criteria for inclusion in the sample for this research were (1) working greater than 20 hours per week in their primary job and (2) completion of the Emotions at Work Scale (EWS) (which included the emotional labor sub-scale), Center for Epidemiologic Studies-Depression (CES-D) Scale, and the Job Content Questionnaire (JCQ) in order to investigate the principal research questions of this study. Applying these criteria to Project Heart 4 participants, the study sample consisted of 127 subjects.

MEASURES

Survey questionnaires administered to Project Heart 4 participants included the

Figure 3.2. Recruitment of participants for research from Project Heart studies used for phase two



standardized scales Positive Affect/Negative Affect Scale (PANAS) (Watson, Clark, & Tellegen, 1988); State-Trait Anxiety Inventory (STAI) (Spielberger, 1983; Spielberger, Edwards, Lushene, Montuori, & Platzek, 1973); Job Content Questionnaire (Karasek, Gordon, Pietrokovsky, Freese, & Pieper, 1985); and Center for Epidemiologic Studies-Depression (CES-D) Scale (Radloff, 1977). In addition, the Emotions at Work Scale (EWS) (including the emotional labor scale) (Spratt, 1996) was incorporated. Items ascertaining individual demographic (sex, race, age, and education) and work-related (job title and full-time/part-time status) characteristics were also included. Table 3.2 lists the measures used in this study, the number of items for each scale, level of measurement, and possible range of scores.

Independent Variables

Socio-Demographic Characteristics

Socio-demographic characteristics of each participant were collected with respect to age, sex, race, marital status, school status, work status, and job title. The individual factors reflecting these demographic characteristics of each participant were ascertained by direct, straightforward questions included on the Project Heart questionnaire.

Positive Affect/Negative Affect Scale

Measures of positive and negative affect were obtained using the Positive Affect and Negative Affect Scales (PANAS) developed by Watson et al. (1988). The PANAS is a brief 20-item self-report instrument to measure two primary dimensions of mood – positive and negative affect. The total scale consists of ten words describing positive affect (PA) and ten words describing negative affect (NA). Respondents are asked to rate each word on a Likert-scale of one ("very slightly or not at all") to five ("extremely") to indicate to what extent they experienced the different feelings and emotions during a specified time period, adjustable to "moment," "today," "past few days," "past week," "past few weeks," "past year," and "general." (Note: The data analyzed for this research used the time frame "past few weeks.") Scores for both positive affect and negative affect are obtained by summing the scores of each of their ten corresponding items, making the possible range of total scores 10 to 50 for each.

Watson et al. (1988), in a study of undergraduate students, adult university employees, and non-university-affiliated adults, reported internal consistency reliabilities (Cronbach's alpha) ranging from 0.86 to 0.90 for positive affect (PA) and from 0.84 to 0.87 for negative affect (NA), across various time periods. Correlations between the PA

Table 3.2. Study variables measured, number of items, level of measurement, and possible range

Variables	# of Items	Level of Measurement	Possible Range
INDEPENDENT VARIABLES			
Individual Factors			
sex	1	nominal	0 = female 1 = male
age	1	continuous	> 17
race	1	nominal	0 = African-American 1 = Caucasian
school status	1	nominal	1 = enrolled 2 = not enrolled
type of school	1	nominal	1 = undergraduate college/university 2 = graduate school 3 = technical/ vocational school 4 =other (unspecified) 5 = high school
PANAS - positive affect	10	continuous	10 - 50
PANAS - negative affect	10	continuous	10 - 50
STAI - state anxiety	20	continuous	17 – 68

Table 3.2. (continued)

Variables	# of Items	Level of Measurement	Possible Range
Work Environment Factors			
job title	1	nominal	qualitative response
work status (full-/part-time)	1	nominal	1 = full-time 2 = part-time
JCQ - psychological demand	9	continuous	-6 - 21
JCQ - decision latitude	9	continuous	24 - 96
JCQ - skill discretion	6	continuous	12 - 48
JCQ - decision authority	3	continuous	12 - 48
JCQ - social support	11	continuous	11 - 44
JCQ - supervisor support	5	continuous	5 - 20
JCQ - co-worker support	6	continuous	6 - 24
MEDIATING VARIABLES			
Emotional Labor			
EWS - surface acting	5	continuous	5 - 25
EWS - deep acting	4	continuous	4 - 20
DEPENDENT VARIABLES			
CES-D - depression	20	continuous	0 - 60
JCQ - job dissatisfaction	5	continuous	0.0 - 1.0

and NA scales were also low, ranging from -0.12 to -0.23 across the different time periods. Further, the PANAS demonstrated high test-retest reliability (eight-week retest interval) ranging from 0.47 to 0.68 for PA and 0.39 to 0.71 for NA, across the various time frames, and no significant differences were found. Also, the developers noted that retest stability increased as the rated time period lengthened suggesting that longer temporal periods can be aggregated and be indicative of trait affect. The PANAS additionally demonstrated the ability to independently measure positive and negative affect when compared to other instruments that measure similar constructs (e.g., Beck Depression Inventory and the State-Trait Anxiety Inventory – A State scale) (Watson et al., 1988).

In a study to assess the validity of the PANAS among a heterogeneous group of high school students ($n = 266$), Huebner and Dew (1995) reported coefficient alphas of 0.84 and 0.85 for the NA and PA scales, respectively, and an inter-correlation between the scales of $r = -0.14$ ($p \leq 0.01$). Additional analysis that included factor analysis and correlation with other measures of related constructs (i.e., self-esteem, social desirability) also confirmed the independent two-factor scheme of PA and NA for the total 20-item scale (Huebner & Dew, 1995). Another study by Crocker (1997) of a sample ($n = 645$) characterized as "sporting youth" (aged 10 to 17 years participating in a Canadian summer sport camp) evaluated the utility of the PANAS in the context of physical/sporting activity. The reported Cronbach's alphas for the PA and NA scales were 0.88 and 0.79, respectively, with an inter-scale correlation of $r = -0.11$ ($p \leq 0.01$). Factor analysis moderately confirmed the acceptability of the two-factor dimension of PA and NA for the entire scale (Crocker, 1997). Consistent with these findings, Melvin and

Molloy (2000) also reported good internal consistency (Cronbach's alpha = 0.89 for PA and alpha = 0.87 for NA) and negative inter-correlation between the PA and NA scales (r = -0.26, $p \leq 0.01$) among a sample (n = 237) of Australian secondary school youth aged 12 to 18 years.

State-Trait Anxiety Inventory

State anxiety was measured with the State-Trait Anxiety Inventory (STAI) (Spielberger, 1983; Spielberger et al., 1973). Twenty items were developed from previously developed and validated measures of anxiety (the Taylor Manifest Anxiety Scale, the Anxiety Scale Questionnaire, the Welsh Anxiety Scale, and the Affect Adjective Check List) and adapted to measure state and trait anxiety separately. For the 20-item STAI-state anxiety form, respondents are asked to rate short phrases (i.e., "I feel calm," "I feel upset," "I feel nervous") to indicate their feelings at a particular point in time (e.g., "right now, at this moment") following a Likert-scale ranging from one ("not at all") to four ("very much so"). Some questions are reverse-coded to reflect consistent directions with regard to positive and negative responses. Total score for state anxiety is calculated by taking the sum of 17 of the 20 items with a possible range of 17 to 68. Low scores indicate feeling calm and serene, intermediate scores are associated with moderate levels of tension and worry, and high scores reflect intense fear, approaching terror and panic (Spielberger, 1985; Spielberger, Sydeman, Owen, & Marsh, 1999).

The STAI is one of the most widely used anxiety scales and has excellent psychometric properties, including internal consistency, test-retest reliability, and predictive and discriminant validity (Spielberger, 1983). State anxiety is operationalized as a temporal cross-section in the emotional stream-of-life of a person that can fluctuate

as a function of the extent to which a person perceives his/her environment as dangerous or threatening. State anxiety consists of subjective feelings of tension, apprehension, nervousness, worry, and arousal of the autonomic nervous system (Spielberger, 1985; Spielberger et al., 1999).

Initial investigation of the psychometric properties (i.e., construct validity, concurrent validity, internal consistency, test-retest reliability) was performed using a sample of undergraduate and graduate students with subsequent revision of items to distinguish the measurement between state and trait anxiety. As stated, twenty items were developed to measure each state and trait anxiety, and studies of factor analysis among high school and college students, working adults, hospital patients, and prison inmates have consistently shown that these items fall distinctly into these two components. Specifically, the STAI-state anxiety had been tested under both high- and low-stress conditions to assess its construct validity showing that scores were higher during high stress conditions and lower during low-stress conditions. The STAI has undergone periodic revision to incorporate items better reflective of each of the state and trait anxiety components (Spielberger, 1985; Spielberger et al., 1999) and has been used extensively in the research of anxiety (Spielberger et al., 1999). Reported Cronbach's alphas for the STAI-state anxiety were 0.90 or greater for large, independent samples of students, working adults, and military recruits (Spielberger et al., 1999).

Emotional Vulnerability 'Complex'

For this research the complex of "emotional vulnerability" was constructed from a combination of the measures for positive affect, negative affect, and state anxiety. Participants were categorized into high and low groups based on the median split

identified for each of these measures. Two "emotional vulnerability" complexes were created for comparison: "emotional vulnerability 1" with just high negative affect and high anxiety and "emotional vulnerability 2" with low positive affect, high negative affect, and high anxiety. The version of primary interest for this research is "emotional vulnerability 2."

Job Content Questionnaire

(psychological job demand, decision latitude, social support)

The Job Content Questionnaire (JCQ) developed by Karasek et al. (1985), is used to measure psychosocial risk factors in the work environment. The JCQ was designed to measure the nature of work tasks (i.e., demands, decision making opportunities, and social interactions) as perceived by the study subject and focuses on the psychological and social structure of the work environment. The sub-scales of the JCQ used for this research include the most recent versions recommended by Karasek. "Psychological job demand" was measured by nine items; "decision latitude" was measured as a composite score from the sub-components "skill discretion" (comprised of six items) and "decision authority" (comprised of three items); and "social support" was also measured as a composite score from the sub-components "co-worker support" (comprised of five items) and "supervisor support" comprised of four items). Individual items are rated on a four-point Likert scale ranging from "strongly agree" to "strongly disagree." Some questions are reverse-coded to reflect consistent directions with regard to positive and negative responses. Specific formulas are prescribed by scale developers to arrive at total scores for each of these measures. The possible ranges for total scores of psychological job

demand, decision latitude, and social support are –6 to 21, 24 to 96, and 11 to 44, respectively.

Two advantages of the JCQ are that most of the sub-scales have been standardized and widely used nationally and internationally and that the scales can be incorporated into a data base linkage system that can facilitate comparisons with existing data bases (Karasek et al., 1985). Test-retest reliability for all scales of the JCQ has been reported to be ≥ 0.90 and coefficient alpha internal consistency reliabilities ranged from 0.61 to 0.87 among a variety of study populations (Karasek & Theorell, 1990).

Job Strain 'Complex'

Job strain has been operationalized in several ways (Schnall, Landisbergis, & Baker, 1994). The most common procedure has been to define employees both above the median on psychological job demands and below the median on decision latitude as a high strain group. Further, Johnson and Hall (1988) expanded this model to include social support from coworkers and supervisors by demonstrating that the greatest risk of job strain exists for those workers with high demands, low control, and low social support (below median). For this research, two "job strain" complexes were created using differing combinations of the median splits (into high and low groups) for the measures psychological job demand, decision latitude, and social support. The complex of "job strain 1" was constructed using the original combination of high psychological job demand and low decision latitude. Additionally, the complex "job strain 2" was created consisting of high psychological job demand, low decision latitude, and low social support. The version of primary interest for this research is "job strain 2."

Mediating Variables

Emotions at Work Scale (surface acting and deep acting)

As described above in the section outlining Phase One of this research, the Emotions at Work Scale (EWS) was developed by Spratt (1996) and Curbow and included items designed to measure the construct of emotional labor. The original 13-item emotional labor scale had been modified specifically for this research to measure each of the distinct dimensions of emotional labor. Surface acting is measured with five items and deep acting with four. Each item is rated with a Likert-scale response ranging from a score of one ("rarely or never") to five ("most of the time") to obtain a possible total sum score between 5 to 25 and 4 to 20 for surface acting and deep acting, respectively. The psychometric properties of the original EWS emotional labor scale are reported above under the section outlining the methodology for Phase One of this research. Psychometric properties of the modified emotional labor scale (distinctly measuring surface acting and deep acting) used for this research are reported in Chapter Four of this dissertation.

Dependent Variables

Center for Epidemiologic Studies-Depression

Depressive symptomatology was measured using the Center for Epidemiologic Studies Depression Scale (CES-D) (Radloff, 1977). The CES-D was developed from previously validated depression scales and specifically designed to measure depressive symptomatology (rather than diagnosis of depression) among general populations. In addition, because the scale was constructed to assess the relationship between depression and other variables, it was demonstrated to be sensitive to reactive depression in the

context of life events (i.e., divorce, illness/injury) (Radloff, 1977). The CES-D consists of 20 statements reflective of major components of depressive symptomatology identified from clinical literature and factor analysis studies. Respondents rate items from zero ("rarely or none of the time: less than one day") to three ("most or all of the time: five to seven days") based on their feeling in the past week making the possible range of total sum scores 0 to 60, with higher scores indicating more symptoms. As a convention, individuals scoring 16 or greater are classified as having depressive symptoms (Radloff, 1977; Weissman, M. M., Sholomskas, D., Pottenger, M., Prusoff, B. A., & Locke, B. Z., 1977).

Radloff (1977) first investigated the psychometric properties of the scale using general population samples in Kansas City, Missouri and Washington County, Maryland. The scale demonstrated high internal consistency (coefficient alpha of 0.80 or greater), acceptable test-retest stability (0.40 or greater), excellent concurrent validity by clinical and self-report criteria, and substantial evidence of construct validity across subgroups (e.g., race, African-American and white; gender; age; and socioeconomic status). Overall, the results demonstrated that the CES-D is a valuable tool to identify groups with high average scores as "at risk" for depression in relation to other variables (Radloff, 1977).

Additional studies have focused distinctly on the appropriateness of the CES-D with younger populations. Schoenbach, Kaplan, Wagner, Grimson, and Miller (1982, 1983) first published a study specifically examining the utility of the CES-D among junior high school students ($n = 270$). This study reported acceptable internal consistency with an overall Cronbach's coefficient alpha of 0.85 (with alphas equal or

greater than 0.83 for all four sub-groups of white males, white females, black males, black females). Roberts, Andrews, Lewinsohn, and Hops (1990) reported that the CES-D was appropriate to use with adolescents and had similar operating characteristics among four pilot groups of students in grades 9-12 ($n = 2160$) as with older, adult populations. Study findings among each of the groups showed internal consistency reliability (alpha) all above 0.87 for male groups (0.88 for male groups combined) and 0.89 for females (0.91 for female groups combined). Test-retest correlations were also reported to be greater than 0.51 for each group (0.49 for male groups combined and 0.60 for female groups combined), with the exception for one group of males being 0.19. Factor analysis resulted in items loading on the same four factors identified by Radloff (1977), showing that the factor structure on a sample of adolescents is similar to that obtained from adult samples. Moreover, this factor structure remained stable between the test-retest periods across age groups.

Job Content Questionnaire (job dissatisfaction)

Job dissatisfaction is an additional, distinct sub-scale of the JCQ developed by Karasek et al. (1985). The sub-scale consists of five items that cover the sentiments indicative of how satisfied a individuals are with their employment, such as "job satisfaction," "advise friend to take job," "take this job again," "find a new job within one year," and "job was desired when applied." Individual items are rated on a four-point Likert scale ranging from "strongly agree" to "strongly disagree" and specific formulas are prescribed to arrive at a total score between the possible range of 0.0 to 1.0. (For psychometric properties reported in other studies using the entire JCQ, see JCQ section under heading "Independent Variables," above).

PROCEDURES

Data Collection

A self-administered questionnaire was mailed or personally distributed to each of the former Project Heart participants. Participants were asked to respond to all items in the questionnaire that included the measures and scales identified above. Identification codes that were assigned on entry into the original Project Heart studies were used again to identify these questionnaires. Each questionnaire was checked for completeness and follow-up telephone calls were made to obtain additional missing information. All hard copy versions of the questionnaire are maintained in locked file cabinets with access limited only to Project Heart research team members and the investigator of this research. Coded responses from hard copy surveys were entered into SPSS, version 10.0 statistical software by trained Project Heart staff to create master computer files of Project Heart data. Data were double-entered to ensure accuracy and completeness. Data files were stored on password protected computer hard drives and backup diskettes kept in locked boxes within the office of Dr. Fitzgerald, principal investigator of the Project Heart 4 study.

Data relevant for this research were made available to this investigator by Dr. Sheila T. Fitzgerald. Data files were drawn directly from the master computer files and copied onto floppy diskettes also in SPSS format. These derived files were also stored on password protected computer hard drives and backups stored under lock and key.

Missing Data

Missing values for scale items were replaced with the series mean. The mean value was calculated from the available responses to the corresponding item provided by

all other respondents. For those participants with missing values, the decision to add them to the sample considered the number of items responded to within the specific factor (i.e., positive affect, negative affect, psychological job demand, decision latitude, social support, and job dissatisfaction) or entire scale (i.e., state anxiety and depression). If more than half of the number of items within each factor/scale was completed, the participant qualified for inclusion and the sample mean of the corresponding item were substituted for the missing value. Mean substitution provides a simple and conservative method to resolve the issue of missing data because it maintains the characteristics of scale distribution resulting from the responses provided by the majority of study participants (Babbie, 1979; Little & Rubin, 1987). Each factor/scale had no more than three participants typically missing only one item, with the exception of state anxiety (six participants), social support (five participants), and depression (five participants). Assessing per-item completion, the number of missing responses ranged from one to ten for each item among each of the continuous measures.

Analysis

Preliminary Analyses

Univariate analyses were carried out to describe the study sample based on the variables measured. Socio-demographic characteristics (sex, age, race, marital status, school status, work status, and job title) of the study sample were first examined. Because job titles were distributed over nine specific categories using the classification system of the U.S. Bureau of Labor Statistics National Compensation Survey 2000, multiple categories were collapsed into three broader categories: (1) professional (Professional and Technical; Executive, Administrative, and Managerial), (2) sales, and

(3) service (Administrative Support, Including Clerical; Precision, Production, Craft, and Repair; Transportation and Material Moving; Handlers, Equipment Cleaners, Helpers, and Laborers; Service, Except Private Household; and Technical and Related). All continuous measures (positive affect, negative affect, anxiety, psychological job demand, decision latitude, social support, surface acting, deep acting, depression, and job dissatisfaction) were examined for outliers and measures of central tendency. Further, normality of distributions for continuous measures was assessed and log transformation for those exhibiting a conspicuous departure was employed. Table 3.3 displays the necessary log transformations employed for the specific observed distributions of scores for negative affect, depression, and job dissatisfaction. Psychometric properties of each continuous measure were also inspected particularly to obtain mean inter-item correlations and Cronbach's coefficient alphas for internal consistency.

Table 3.3. Log transformation for continuous measures not approximating a normal distribution

measure (x)	log transformation
PANAS - negative affect	ln(x)
CES-D - depression	ln(x + 1)
JCQ - job dissatisfaction	ln(x + 1)

Test for Covariates

Zero-order Pearson's chi-square statistics were computed between socio-demographic variables (sex, race, marital status, school status, work status) and all

continuous measures dichotomized at the median split into "high/low" categories (e.g., the continuous measure of age into "older" and "younger," positive affect into "high" and "low") for the entire study sample.

Bivariate Relationships

Zero-order Pearson's product moment correlation coefficients were calculated to describe the bivariate correlations between continuous measures (positive affect, negative affect, state anxiety, psychological job demand, decision latitude, social support, surface acting, deep acting, depression, and job dissatisfaction) among the entire study sample. Further, the study sample was stratified for each binary socio-demographic variable and measures of central tendency assessed and log transformations employed where necessary (scores for negative affect, anxiety, depression, and job dissatisfaction). Independent sample t-tests were carried out to examine whether scores for all continuous measures differed between each the two sub-categories (e.g., male and female). Additionally, analysis of variance (ANOVA) was used to accomplish this same analysis for the variable job title, which was collapsed into three categories (professional, sales, and service). Pearson's product moment correlation coefficients were also calculated to describe bivariate correlations between continuous measures within these strata.

Multivariable Analyses and Hypothesis Testing

Test for Mediation. While surface acting was the primary variable of interest with respect to identifying the mediation effect of emotional labor, deep acting was also examined. Mediation occurs when a chosen variable accounts for or explains the relationship between an independent and dependent variable. Baron and Kenny (1986) offer a sequential method to test for mediation involving three regression equations.

Mediation analysis is carried out in the following order and must meet the stated conditions: (1) a simple linear regression analysis shows that an independent variable (x) predicts the hypothesized mediator (m); (2) a simple linear regression analysis shows that an independent variable (x) predicts the dependent variable (y); and (3) a multiple linear regression analysis shows that the mediator (m) predicts the dependent variable (y) when the independent variable (x) is also included. Mediation is present when the correlation observed between the independent variable (x) and dependent variable (y) is diminished (or, ideally, reduces to zero) in this third regression equation. Both surface acting and deep acting were individually examined as potential mediators for all designated independent variables (sex, age, race, marital status, school status, work status, job title category, positive affect, negative affect, state anxiety, psychological job demand, decision latitude, and social support) with each outcome of depression and job dissatisfaction. In addition, the four "complexes" identified above were utilized in tests for mediation.

Test for Effect Modification (Moderation). For comparison to the results of the mediation analysis, the functional property of both surface acting and deep acting to operate as moderating variables was analyzed. A moderator may strengthen, weaken, or change the relationship between an independent and dependent variable (Breckler, 1995). Per methods prescribed by Cohen and Cohen (1983), effect modification was assessed with a hierarchal two-step regression analysis. First, the dependent variable (y) is regressed on a selected primary independent variable (x) and the purported effect modifier (z) (i.e., surface acting score) in its unmodified form to obtain a regression equation. The second step involves performing the regression analysis in the first step

with the inclusion of a third covariate, an interaction term (xz), which is the mathematical product of the primary independent variable and the candidate effect modifier. Effect modification exists if a differential effect of the independent variable (x) on the dependent variable (y) is observed consequent to the presence of the interaction term (xz) in the second regression equation. Conditionally, though, both a statistically significant p-value for the tested interaction term and a change in the magnitude or direction of the beta coefficients for the independent variable must be present to qualify for effect modification. Both surface acting and deep acting were individually examined as effect modifiers with all designated independent variables (sex, age, race, marital status, school status, work status, job title category, positive affect, negative affect, state anxiety, psychological job demand, decision latitude, and social support) for the each of the outcomes of depression and job dissatisfaction. In addition, the four created "complexes" were utilized in tests for effect modification.

Additionally, other potential interaction terms with relevance to both outcomes of depression and job dissatisfaction were explored using Pearson's product moment correlation coefficients (r) calculated within stratified socio-demographic variables. Cohen and Cohen (1983) prescribe the use of Fisher z-transformations to assess whether r's statistically differed between each stratum within each socio-demographic variable. For example, the correlation (r) between social support and depression among females was compared to that observed among males to assess if a statistically significant difference between them existed. The first step requires the z-transformation of r using a z-transformation table. Secondly, the transformed r's (now z's) are entered into the

following formula, with *n* representing the number of participants within each group being compared.

$$z = \frac{z_1 - z_2}{\sqrt{\frac{1}{n_1 - 3} + \frac{1}{n_2 - 3}}}$$

The *p*-value (one-tailed) for this calculated *z* (standard normal curve deviate) is obtained by checking a normal distribution table. Doubling this *p*-value provides the two-tailed probability to determine whether to reject the null hypothesis and state that a statistically significant difference exists between *r*'s comparing the two strata (e.g., between females and males). Should a statistically significant difference be found ($p \leq 0.05$), then an interaction term between the socio-demographic variable (e.g., sex) and the independent variable (e.g., social support) is relevant to the dependent variable (i.e., depression).

Hierarchal Regression Analyses. Hierarchal multiple linear regression analysis was carried out using functional sets to examine the relationship between each of the dependent variables, depression and job dissatisfaction, and the independent variables of interest. Functional sets are groups of independent variables categorized into sets in consideration of their substantive content and function they play in the logic of the research (Cohen & Cohen, 1983). The independent variables of each set are entered together as a group for the regression analysis. Additional functional sets are subsequently entered in a hierarchal fashion and statistically significant predictors ($p \leq 0.05$), R^2, and R^2 change were noted. Regression analyses were performed using SPSS, version 10.0.

For this research, three strategies (identified as A, B, and C) of hierarchal regression were performed for each dependent variable, depression and job dissatisfaction. All strategies utilized the same sets of independent variables (e.g., set one: sex, age, race; set two: positive affect, negative affect; set three: work status, job title category; set four: psychological job demand, decision latitude, social support). In addition, strategy A included subsequent sets containing only surface acting variables of interest (surface acting alone and interaction terms involving surface acting), strategy B only deep acting variables of interest (deep acting alone and interaction terms involving deep acting), and strategy C all relevant surface acting and deep acting variables of interest (including interaction terms). Results were compared between all three strategies in order to consider the most relevant and significant predictors for each dependent variable (depression and job dissatisfaction). Determination of a final parsimonious "best fit" regression model for each outcome was made based on the results of backward stepwise regression starting with the full model used in strategy C.

Power Calculation

According to Cohen and Cohen (1983), statistical power for a multiple regression analysis can be determined as a function of a fixed sample size (n) for a known effect size (R^2), and selected significance criterion (α). The following formulae are utilized to determine a constant (L) that is referenced to a table providing various levels of statistical power.

$$L = f^2 (n - k - 1)$$

where $f^2 = R^2 / 1 - R^2$ and k = number of independent variables in the model

For this study, multiple regression analyses were conducted for two distinct outcomes, depression and job dissatisfaction. Results (as reported below in Chapter Four) revealed that five independent variables explained 0.490 of the variance (R^2) in the selected model for depression and that three independent variables explained 0.463 of the variance (R^2) in the selected model for job dissatisfaction. The following calculations arrive at the value for L for each of these dependent variables.

depression: $L = 0.9608\ (127 - 5 - 1)$; where $f^2 = 0.490 / 1 - 0.490 = 0.9608$

$L = 116.25$

job dissatisfaction: $L = 0.8622\ (127 - 3 - 1)$; where $f^2 = 0.463 / 1 - 0.463 = 0.8622$

$L = 106.05$

Referencing a table of L values (Cohen & Cohen, 1983), both sets of multiple regression analyses have levels of statistical power greater than 0.99.

Hypothesis Testing

Hypothesis One: Level of surface acting emotional labor is positively associated with both depression and job dissatisfaction. Hypothesis one was tested using scores for surface acting obtained from the Emotions at Work Scale (EWS), for depression obtained from the Center for Epidemiologic Studies-Depression (CES-D) scale, and for job dissatisfaction obtained from the Job Content Questionnaire (JCQ). Relationships (Pearson's product moment correlation coefficients and regression analysis) were examined for the entire study sample and across all of the subcategories

for the socio-demographic variables (sex, age, race, marital status, school status, work status, job title category).

Hypothesis Two: Level of deep acting emotional labor is negatively associated with both depression and job dissatisfaction. Hypothesis two was tested using scores for deep acting obtained from the Emotions at Work Scale (EWS), for depression obtained from the Center for Epidemiologic Studies-Depression (CES-D) scale, and for job dissatisfaction obtained from the Job Content Questionnaire (JCQ). Relationships (Pearson's product moment correlation coefficients and regression analysis) were examined for the entire study sample and across all of the subcategories for the socio-demographic variables (sex, age, race, marital status, school status, work status, job title category).

Hypothesis Three: The relationships between emotional vulnerability (characterized by low positive affect, high negative affect, and high anxiety) and the outcomes of depression and job dissatisfaction are mediated by the surface acting component of emotional labor. Hypothesis three was tested using high/low median split scores for positive affect, negative affect from the Positive Affect/Negative Affect Scale (PANAS), and state anxiety from the State-Trait Anxiety Inventory (STAI) to create the 'complex' independent variable "emotional vulnerability 2;" scores for surface acting obtained from the Emotions at Work Scale (EWS); scores for depression obtained from the Center for Epidemiologic Studies-Depression (CES-D) scale; and scores for job dissatisfaction using the Job Content Questionnaire (JCQ). Mediation testing was performed for the entire study sample.

Hypothesis Four: The relationships between high job strain (characterized by high demand, low control, and low social support) and the outcomes of depression and job dissatisfaction are mediated by the surface acting component of emotional labor. Hypothesis four was tested using high/low median split scores for psychological job demand, decision latitude, and social support from the Job Content Questionnaire (JCQ) to create the 'complex' independent variable "high job strain 2;" scores for surface acting using the Emotions at Work Scale (EWS); scores for depression using the Center for Epidemiologic Studies-Depression (CES-D) scale; and scores for job dissatisfaction using the Job Content Questionnaire (JCQ). Mediation testing was performed for the entire study sample.

CHAPTER FOUR: RESULTS

OVERVIEW

This chapter presents the results of the analyses conducted for this research. The analyses were divided into two distinct phases. Phase One was the refinement and psychometric evaluation of the EWS emotional labor scale and Phase Two involved cross-sectional analysis of data for the purpose of hypothesis testing. This chapter strictly details the analytical results of this research, while discussion of these findings are offered in the chapter that follows.

PHASE ONE: REFINEMENT OF THE EWS EMOTIONAL LABOR SCALE

Primary Factor Analysis

Emotional labor scale items and results of the primary factor analysis are displayed in Table 4.1. Analysis using all 13 emotional labor items first resulted in three principal factors: Factor One loading seven items, Factor Two loading five items, and Factor Three loading only one item ("I act like nothing bothers me, even when a client makes me mad or upset"). Considering this one-item factor, the statistical computer analysis was instructed to force all 13 items into two factors, designated as surface acting and deep acting based on qualitative review of item wording. This "forced" two-factor analysis resulted in eight items for surface acting (which now included the one item originally falling into a third factor) and five items for deep acting. Factor loadings for surface acting ranged from 0.50 to 0.74, while for deep acting ranged from 0.54 to 0.86. Mean inter-item correlation for the surface acting and deep acting factors were 0.36 and 0.34, respectively. Internal consistency of these factors was measured using Cronbach's alpha and resulted in 0.81 for surface acting and 0.72 for deep acting.

Table 4.1. Factors and items identified through primary factor analysis of original thirteen emotional labor items, including factor loadings, mean inter-item correlation (MIC), and Cronbach's coefficient alpha (α)

Factor One: surface acting	Factor Loadings	MIC	Cronbach's α
1) I act like nothing bothers me, even when a client makes me mad or upset.*	0.497	0.36	0.81
2) I have to act the way people think a person in my job should act.	0.634		
3) I want my clients to think I'm always able to handle things.	0.542		
4) I work hard to keep myself in a positive mood at work.	0.610		
5) At work I have to seem concerned, even when I don't feel like it.	0.739		
6) I want my clients to think I'm always calm.	0.719		
7) A big part of my job is keeping other people happy.	0.707		
8) Part of the training for this job requires learning how to deal with people.	0.617		
Factor Two: deep acting	**Factor Loadings**	**MIC**	**Cronbach's α**
1) To give advice, I have to make sure I say it in a nice way.	0.631	0.34	0.72
2) I make an effort to be interested in my client's concerns.	0.628		
3) People judge me by how caring I am.	0.593		
4) To make suggestions, I make sure I say it in a nice way.	0.859		
5) When something goes wrong at work I feel like I should try to make other people feel better.	0.537		

*Item originally loaded by itself onto third factor, but subsequently loaded onto Factor One after forcing analysis into two factors.

Scale Refinement and Secondary Factor Analysis

Table 4.2 displays the "refined" emotional labor scale based on qualitative review by emotional labor researchers. As the table shows, some scale items were rearranged into the other factor while others were eliminated resulting in nine total items. This refined version lists five items for the surface acting factor and four items for the deep acting factor. Factor loadings for surface acting ranged from 0.52 to 0.80, while for deep acting ranged from 0.58 to 0.83. Mean inter-item correlation was 0.33 for each of the two factors, while Cronbach's alpha was 0.71 for surface acting and 0.67 for deep acting.

Zero-order correlations between scores of corresponding factors from the primary and secondary factor analyses are displayed in Table 4.3. For example, scores from the eight-item surface acting factor obtained in the primary factor analysis were correlated with scores from the "refined" five-item surface acting factor. As the table shows, statistically significant high correlations were observed. Between surface acting factors, a correlation of $r = 0.94$ ($p \leq 0.01$) was noted, and between deep acting factors, $r = 0.88$ ($p \leq 0.01$). Also, the correlation between the total original 13-item scale and the total "refined" nine-item scale was observed to be highest at $r = 0.96$ ($p \leq 0.01$).

In consideration of the factors acting and effort described by Spratt (1996) and Curbow, the specific items assigned to each are listed in Table 4.4. Table 4.5 displays the correlations with the corresponding "refined" surface acting and deep acting factors. As with the correlations reported above, statistically significant high correlations were also observed. Between acting and surface acting, a correlation of $r = 0.92$ ($p \leq 0.01$) was noted and between effort and deep acting, $r = 0.80$ ($p \leq 0.01$).

Table 4.2. Factors and items per "refined" version of the original thirteen emotional labor sub-scale, including factor loadings, mean inter-item correlation (MIC), and Cronbach's coefficient alpha (α)

Factor One: surface acting	Factor Loadings	MIC	Cronbach's α
1) I act like nothing bothers me, even when a client makes me mad or upset.	0.522	0.33	0.71
2) I have to act the way people think a person in my job should act.	0.694		
3) I want my clients to think I'm always able to handle things.	0.668		
4) At work I have to seem concerned, even when I don't feel like it.	0.685		
5) I want my clients to think I'm always calm.	0.799		
Factor Two: deep acting	**Factor Loadings**	**MIC**	**Cronbach's α**
1) To give advice, I have to make sure I say it in a nice way.	0.716	0.33	0.67
2) I make an effort to be interested in my client's concerns.	0.684		
3) I work hard to keep myself in a positive mood at work.	0.582		
4) To make suggestions, I make sure I say it in a nice way.	0.827		

Table 4.3. Pearson's product moment correlation coefficients for emotional labor scores from factors of primary factor analysis and "refined" factors

	surface acting ("refined" 5-item factor)	deep acting ("refined" 4-item factor)	total emotional labor ("refined" 9-items)
surface acting (8-item factor from primary factor analysis)	0.938**		
deep acting (5-item factor from primary factor analysis)		0.884**	
Total emotional labor (total 13-items from primary factor analysis)			0.963**

** $p \leq 0.01$ (two-tailed)

Table 4.4. Items identified by Spratt and Curbow for factors "acting" and "effort"

acting
1) I want my clients to think I'm always calm.
2) At work I have to seem concerned, even when I don't feel like it.
3) I have to act the way people think a person in my job should act.
4) I want my clients to think I'm always able to handle things.
5) I act like nothing bothers me, even when a client makes me mad or upset.
6) I work hard to keep myself in a positive mood at work.
7) To make suggestions, I make sure I say it in a nice way.
effort
1) To give advice, I have to make sure I say it in a nice way.
2) I make an effort to be interested in my clients concerns.
3) A big part of my job is keeping other people happy.
4) When something goes wrong at work I feel like I should try to make other people feel better.

Table 4.5. Pearson's product moment correlation coefficients for emotional labor scores from "refined" factors and corresponding Spratt-Curbow factors

	surface acting ("refined" 5-item factor)	deep acting ("refined" 4-item factor)
acting (7-item Spratt-Curbow factor)	0.924**	
effort (4-item Spratt-Curbow factor)		0.797**

** $p \leq 0.01$ (two-tailed)

Test-Retest Reliability

Results of test-retest reliability analysis using the "refined" versions of the surface acting and deep acting factors are displayed in Table 4.6. Mean length of time between test and retest dates was 90.5 days, with a standard deviation of 61.7 days and range of 20-261 days. Zero-order correlations between total scores for each factor at test and retest times were calculated for the 31 eligible study participants. Observed correlation was $r = 0.64$ ($p \leq 0.01$) for surface acting and $r = 0.51$ ($p \leq 0.01$) for deep acting.

Table 4.6. Results of test-retest reliability analysis using "refined" version of surface acting and deep acting factors

	Time One mean score (s.d.)	Time Two[a] mean score (s.d.)	*r*
Factor 1: "surface acting"	17.58 (4.36)	18.39 (2.97)	0.64**
Factor 2: "deep acting"	15.71 (3.09)	15.19 (2.57)	0.51**

** $p \leq 0.01$ (two-tailed)

[a] Days between test times: 90.5, 61.7 (mean, s.d.); range: 20-261

PHASE TWO: HYPOTHESIS TESTING AND CROSS-SECTIONAL ANALYSIS

Univariate Analysis

Table 4.7 displays the demographic characteristics of the study sample. The sample was predominantly female (74.0%), African-American (73.2%), and single (88.6%), with a mean age of 23.2 years (95% confidence interval: 22.7, 23.8; standard deviation: 3.26). The majority of participants work full-time (55.1%) and all were employed in "professional" (36.2%), "sales" (20.5%), and "service" (43.3) type jobs. Table 4.8 lists the means, distribution characteristics, and psychometric properties of all the survey instruments used for this analysis. Log transformations were employed for the score distributions of negative affect [ln(x)], depression [ln(x+1)], and job dissatisfaction [ln(x+1)] in order to approximate normal distributions. Bivariate correlations among all continuous measures for the entire sample are displayed in Table 4.9.

Depression

Inspecting the primary associations of interest between each dimension of emotional labor and depression, surface acting was positively correlated with depression ($r = 0.09$, n.s.) while deep acting was negatively correlated ($r = -0.07$, n.s.). Though neither correlation was statistically significant nor sizeable in magnitude, each was correlated in the direction hypothesized. Additional bivariate correlations with depression are worth noting. Positive correlations were detected between depression and each of the following independent variables: negative affect ($r = 0.60, p \leq 0.01$), state anxiety ($r = 0.67, p \leq 0.01$), psychological job demand ($r = 0.27, p \leq 0.01$), and job dissatisfaction ($r = 0.33, p \leq 0.01$). Positive affect ($r = -0.26, p \leq 0.01$) and social support ($r = -0.24, p \leq 0.01$) were both observed to be negatively correlated with depression. All

Table 4.7. Socio-demographic characteristics of study sample (n = 127)

characteristic		n (%)
SEX	female	94 (74.0)
	male	33 (26.0)
RACE	African-American	93 (73.2)
	Caucasian	34 (26.8)
AGE (years)	17 – 19	30 (23.6)
	20 – 22	25 (19.7)
	23 – 25	34 (26.8)
	26 – 28	38 (29.9)
	mean (95% CI), std.dev.	23.24 (22.67, 23.82) 3.26
MARITAL STATUS	married	17 (13.4)
	single	110 (88.6)
WORK STATUS	full-time (40 hours/week)	70 (55.1)
	part-time (<40 hours/week)	57 (44.9)
JOB TITLE CATEGORY	"professional"	46 (36.2)
	Professional & Technical	33
	Executive, Administrative, & Managerial	13
	"sales"	26 (20.5)
	"service"	55 (43.3)
	Administrative Support, Including Clerical	17
	Precision, Production, Craft, and Repair	6
	Transportation & Material Moving	2
	Handlers, Equipment Cleaners, Helpers, & Laborers	5
	Service, Except Private Household	17
	Technical & Related	8
SCHOOL STATUS	not currently enrolled	68 (53.5)
	currently enrolled	59 (46.5)
SCHOOL TYPE	undergraduate college/university	42 (33.1)
	graduate school	10 (7.9)
	technical/vocational school	1 (0.8)
	other (unspecified)	3 (2.4)
	high school	3 (2.4)

Table 4.8. Psychometric properties of continuous measures

scale	mean (s.d.)	skewness	kurtosis	items	MIC	α
Positive Affect/Negative Affect Survey:						
positive affect	32.5 (7.5)	0.146	-0.007	10	0.43	0.88
negative affect	19.2 (6.4)	0.995	0.844	10	0.34	0.84
State-Trait Anxiety Inventory:						
state anxiety	30.0 (8.8)	0.639	0.027	20	0.37	0.91
Job Content Questionnaire:						
psychological job demand	8.3 (4.2)	0.464	0.049	9	0.30	0.79
decision latitude	68.6 (11.2)	-0.495	0.904	9	0.31	0.80
skill discretion	33.5 (6.4)	-0.555	0.378	6	0.38	0.79
decision authority	35.1 (6.5)	-0.497	0.895	3	0.28	0.54
social support	33.8 (4.6)	0.191	-0.048	11	0.38	0.87
supervisor support	15.9 (2.5)	-0.089	0.061	5	0.51	0.82
co-worker support	18.0 (2.7)	0.230	0.057	6	0.43	0.81
Emotions at Work Scale:						
surface acting	17.2 (4.3)	-0.226	-0.242	5	0.32	0.70
deep acting	15.3 (3.2)	-0.326	-0.494	4	0.33	0.66
Center for Epidemiologic Studies–Depression:						
depression	12.6 (9.3)	1.413	1.820	20	0.30	0.89
Job Content Questionnaire:						
job dissatisfaction	0.3 (0.3)	0.709	-0.092	5	0.49	0.80

Table 4.9. Bivariate (Pearson's product moment) correlation matrix for continuous measures (all participants, $n = 127$)

	positive affect	negative affect	state anxiety	psychological job demand	decision latitude	social support	surface acting	deep acting	depression
positive affect									
negative affect	-0.098								
state anxiety	-0.269**	0.516**							
psychological job demand	0.050	0.228**	0.214*						
decision latitude	0.117	0.123	-0.052	0.020					
social support	0.191*	-0.193*	-0.229*	-0.169	0.268**				
surface acting	0.082	0.042	0.098	0.157	0.090	-0.059			
deep acting	0.211*	-0.070	0.065	0.061	0.119	0.237*	0.434**		
depression	-0.262**	0.599**	0.672**	0.274**	-0.072	-0.239**	0.091	-0.065	
job dissatisfaction	-0.175*	0.202*	0.286**	0.183*	-0.503**	-0.535**	-0.017	-0.058	0.326**

* $p \leq 0.05$ (two-tailed)
** $p \leq 0.01$ (two-tailed)

of these reported associations occurred in the expected directions.

Regarding the mediating properties of each form of emotional labor, none was observed. Tables 4.10a-c display how mediation testing was conducted using examples in which the criteria for mediation were nearly achieved. In Table 4.10a, surface acting was tested as a mediating variable between job title category and depression and between psychological job demand and depression. In both of these tests, the first criterion of mediation that "an independent variable (e.g., psychological job demand, x) predicts the hypothesized mediator (e.g., surface acting, m) through simple linear regression" was not met. The beta coefficients in each regression were only statistically significant at the $p \leq 0.10$ level, and therefore not considered to qualify since the level of statistical significance was strictly set at $p \leq 0.05$. As such, subsequent steps for mediation testing in these cases were unnecessary. Table 4.10b displays mediation testing using the complexes "emotional vulnerability 2" (low positive affect/high negative affect/high state anxiety) and "job strain 2" (high psychological demand/low decision latitude/low social support) each as the independent variable, surface acting as the potential mediator, and depression as the dependent variable. Again, the first criterion was not met for either based on the set level of statistical significance ($p \leq 0.05$).

Results shown in Table 4.10c indicated that deep acting potentially mediated the relationships between positive affect and depression and between social support and depression. Criteria one ("an independent variable, x, predicts the hypothesized mediator, m, through simple linear regression") and two ("an independent variable, x, predicts the dependent variable, y, through simple linear regression") of mediation testing were successfully met, but criterion three was not. Step three of Table 4.10c shows for

Table 4.10a. Linear regression results testing 'surface acting' as a mediator between independent variables 'job title category', 'psychological job demand' and outcome 'depression'

	(STEP ONE) surface acting (m)					(STEP TWO) depression (y)				
Independent Variable (x)	β_x	std. β_x	t	p-value	R^2	β_x	std. β_x	t	p-value	R^2
job title category	0.705	0.148	1.675	0.10	0.022	0.073	0.094	1.057	0.29	0.009
psychological job demand	0.160	0.157	1.779	0.08	0.025	0.046	0.672	3.183	0.00**	0.075

	(STEP THREE) depression (y)								
Independent Variables (x + m)	(x) β_x	std. β_x	t	p-value	(m) β_m	std. β_m	t	p-value	R^2
job title category + surface acting	0.064	0.083	0.915	0.36	0.013	0.078	0.869	0.39	0.015
psych. job demand + surface acting	0.044	0.266	3.048	0.00**	0.008	0.049	0.558	0.58	0.077

** $p \leq 0.01$ (two-tailed)

Table 4.10b. Linear regression results testing 'surface acting' as a mediator between independent variables 'emotional vulnerability 2[a],' 'job strain 2[b]' and outcome 'depression'

	(STEP ONE) surface acting (m)					(STEP TWO) depression (y)				
Independent Variable (x)	β_x	std. β_x	t	p-value	R^2	β_x	std. β_x	t	p-value	R^2
emotional vulnerability 2	-0.589	-0.056	-0.629	0.530	0.003	-0.786	-0.457	-5.746	0.000**	0.209
job strain 2	-0.807	-0.068	-0.732	0.465	0.005	-0.532	-0.273	-3.041	0.003**	0.074

	(STEP THREE) depression (y)								
Independent Variables (x + m)	(x) β_x	std. β_x	t	p-value	(m) β_m	std. β_m	t	p-value	R^2
emotional vulnerability 2 + surface acting	-0.780	-0.453	-5.684	0.000**	0.011	0.065	0.816	0.416	0.213
job strain 2 + surface acting	-0.521	-0.267	-2.970	0.004**	0.013	0.082	0.912	0.364	0.081

** $p \leq 0.01$ (two-tailed)
[a] low positive affect/high negative affect/high state anxiety
[b] high psychological demand/low decision latitude/low social support

Table 4.10c. Linear regression results testing 'deep acting' as a mediator between independent variables 'positive affect', 'social support' and outcome 'depression'

	(STEP ONE) deep acting (m)					(STEP TWO) depression (y)				
Independent Variable (x)	β_x	std. β_x	t	p-value	R^2	β_x	std. β_x	t	p-value	R^2
positive affect	0.089	0.211	2.409	0.02*	0.044	-0.024	-0.262	-3.033	0.00**	0.069
social support	0.161	0.237	2.619	0.01**	0.056	-0.036	-0.239	-2.634	0.01**	0.057

	(STEP THREE) depression (y)								
Independent Variables (x + m)	(x) β_x	std. β_x	t	p-value	(m) β_m	std. β_m	t	p-value	R^2
positive affect + deep acting	-0.024	-0.260	-0.293	0.00**	-0.002	-0.010	-0.118	0.91	0.069
social support + deep acting	-0.036	-0.233	-0.249	0.01*	-0.005	-0.024	-0.258	0.80	0.057

* $p \leq 0.05$ (two-tailed)
** $p \leq 0.01$ (two-tailed)

each of these cases that the beta coefficient of the independent variable within the multiple linear regression was statistically significant at the $p \leq 0.05$ level, but its magnitude was not diminished in the presence of deep acting (the potential mediator). The beta coefficients, rather, remain equal. This is evident by comparing the beta coefficients for the independent variable (e.g., positive affect) between steps two and three depicted in the table.

In contrast to the results of mediation testing, effect modification (interaction) was identified with both surface acting and deep acting. Table 4.11 displays the regression analysis revealing that as the level of negative affect increased (from low to average to high), the relationship between surface acting and depression becomes stronger. Graphic illustration of fitted regression lines for each level of negative affect are depicted in Figure 4.1. The same result occurs as well using deep acting in place of surface acting, with the same moderator (negative affect) and dependent variable (depression). Moreover, the calculated slopes and y-intercepts were similar to that observed with surface acting, as Table 4.12 and Figure 4.2 show.

Two additional interactions were also discovered, specifically involving work status. First, work status (full-time or part-time) was found to moderate the relationship between deep acting and depression. Specifically, for participants working full-time, there was a positive relationship between deep acting and depression, but for participants working part-time there was a negative relationship, as Table 4.13 and Figure 4.3 show. Second, work status also moderated the relationship between social support and depression. Table 4.14 and Figure 4.4 show that for full-time workers, there was no relationship between social support and depression, but for part-time workers, a negative

Table 4.11. Hierarchal linear regression analysis examining effect modification by 'negative affect' on the relationship between 'surface acting' and 'depression'

	β_x	std. β_x	t	p-value	R^2	adj. R^2	R^2 change
(constant)	-1.594		-3.222	0.002**			
negative affect	1.310	0.596	8.306	0.000**			
surface acting	0.011	0.065	0.911	0.364	0.363	0.352	
(constant)	3.065		1.768	0.080			
negative affect	-0.302	-0.137	-0.506	0.614			
surface acting	-0.273	-1.664	-2.676	0.008**			
negative affect x surface acting	0.098	1.917	2.798	0.006**	0.401	0.386	0.038

** $p \leq 0.01$ (two-tailed)

$Y = \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_0$
$Y = \beta_1X_1 + \beta_2X_2 + \beta_3X_1X_2 + \beta_0$
$Y = (\beta_2 + \beta_3X_1)X_2 + (\beta_1X_1 + \beta_0)$ where $\beta_0 = 3.065$ (from second set of hierarchal regression analysis)

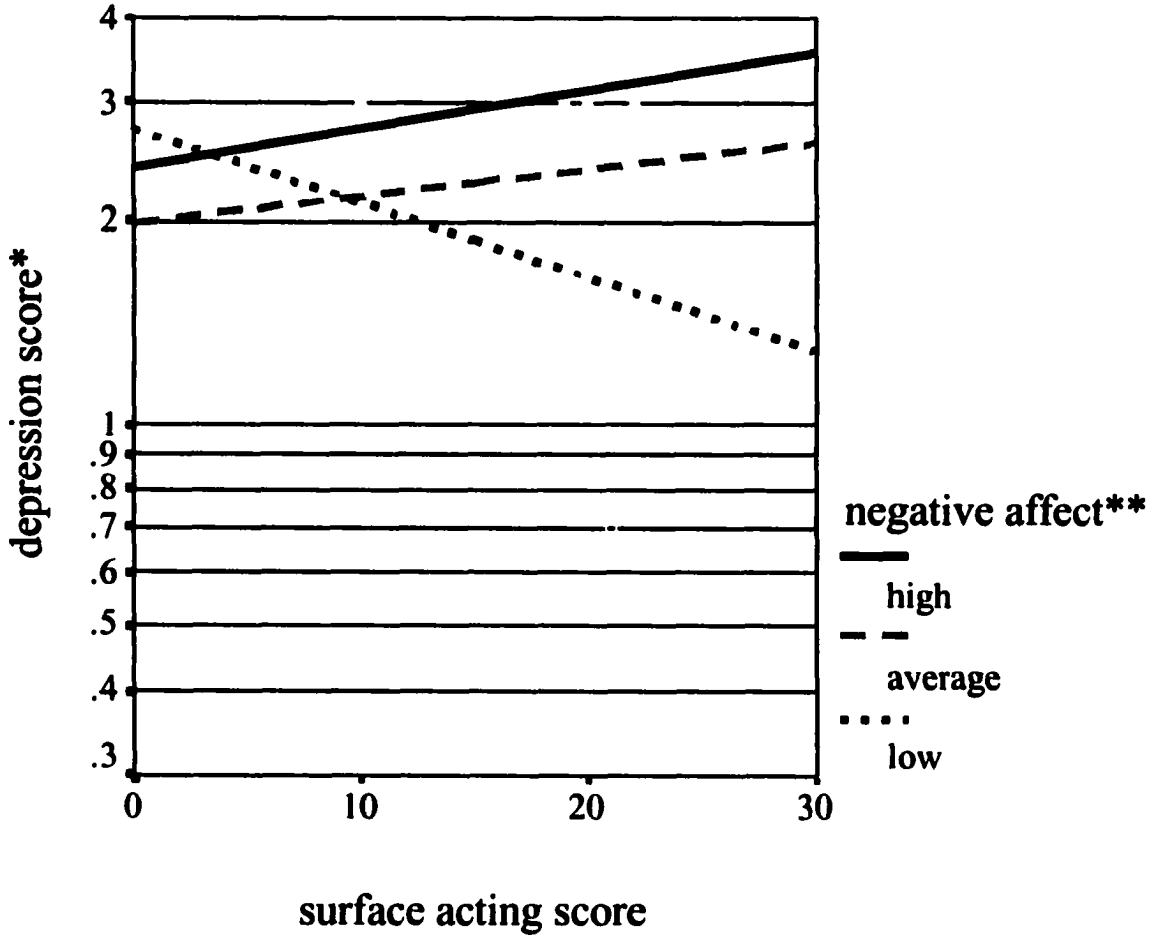
Use negative affect score for X_1: (mean = 2.9029, s.d. = 0.3170)

"low" (mean of X_1 – sd = 2.5859)
$Y_{(low)} = (-0.273 + (0.098*2.5859))X_2 + ((-0.032*2.5859) + 3.065)$
$\mathbf{Y_{(low)} = -0.0195818(X_2) + (2.9822512)}$

"average" (mean of X_1 = 2.9029)
$Y_{(average)} = (-0.273 + (0.098*2.9029))X_2 + ((-0.032*2.9029) + 3.065)$
$\mathbf{Y_{(average)} = 0.0114842(X_2) + (2.9721072)}$

"high" (mean of X_1 + sd = 3.2199)
$Y_{(high)} = (-0.273 + (0.098*3.2199))X_2 + ((-0.032*3.2199) + 3.065)$
$\mathbf{Y_{(high)} = 0.0425502(X_2) + (2.9619632)}$

Figure 4.1. Fitted linear regression lines for outcome of depression illustrating interaction between surface acting and negative affect



* used ln[(depression score + 1)]
** used ln[negative affect score]

Table 4.12. Hierarchal linear regression analysis examining effect modification by 'negative affect' on the relationship between 'deep acting' and 'depression'

	β_x	std. β_x	t	p-value	R^2	adj. R^2	R^2 change
(constant)	-1.339		-2.498	0.014*			
negative affect	1.312	0.597	8.285	0.000**			
deep acting	0.005	-0.024	-0.327	0.744	0.359	0.349	
(constant)	4.846		2.304	0.023*			
negative affect	-0.820	-0.373	-1.140	0.257			
deep acting	-0.426	-1.946	-3.053	0.003**			
negative affect x deep acting	0.145	2.103	3.034	0.003**	0.404	0.389	0.045

* $p \leq 0.05$ (two-tailed)
** $p \leq 0.01$ (two-tailed)

$Y = \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_0$
$Y = \beta_1X_1 + \beta_2X_2 + \beta_3X_1X_2 + \beta_0$
$Y = (\beta_2 + \beta_3X_1)X_2 + (\beta_1X_1 + \beta_0)$ where $\beta_0 = 4.846$ (from second set of hierarchal regression analysis)

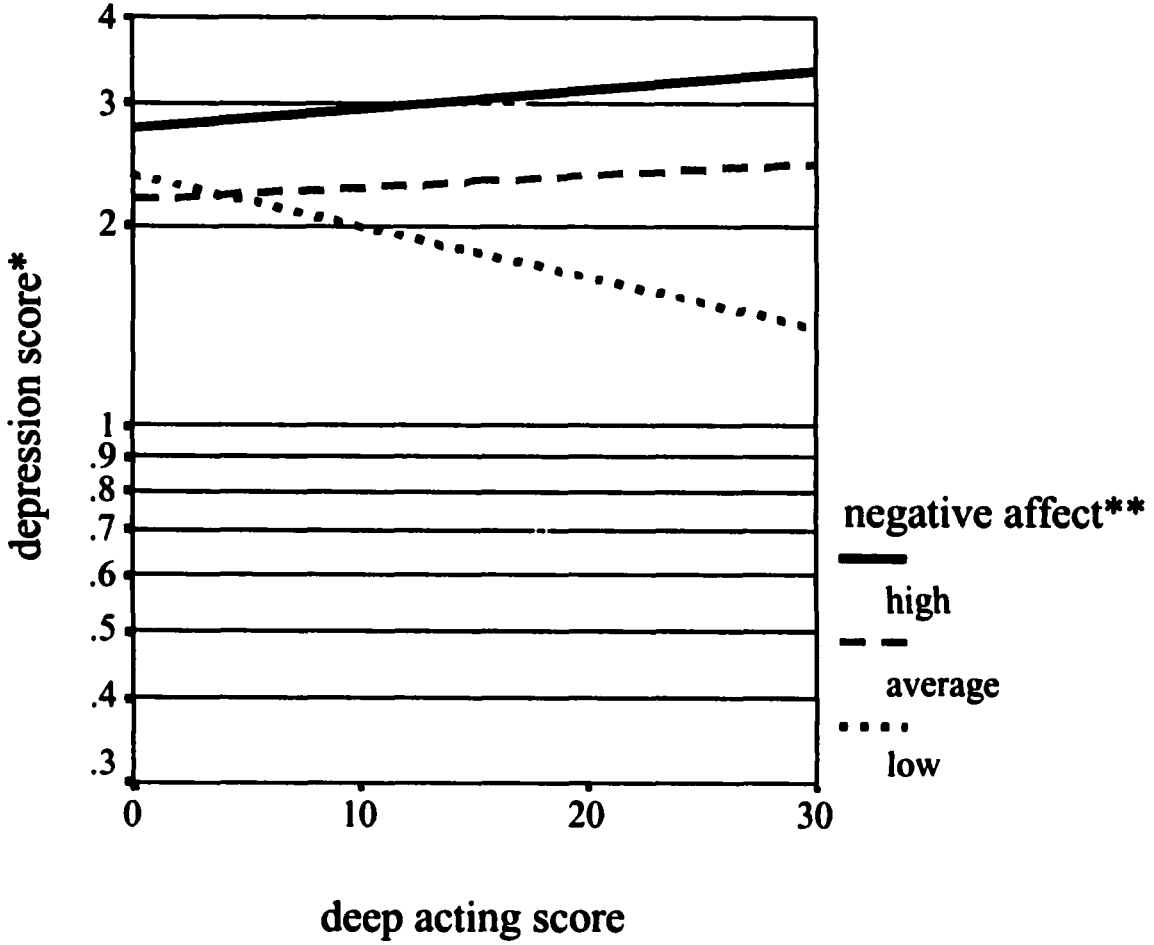
Use negative affect score for X_1: (mean = 2.9029, s.d. = 0.3170)

"low" (mean of X_1 – sd = 2.5859)
$Y_{(low)} = (-0.426 + (0.145*2.5859))X_2 + ((-0.820*2.5859) + 4.846)$
$\mathbf{Y_{(low)} = -0.0510445(X_2) + (2.725562)}$

"average" (mean of X_1 = 2.9029)
$Y_{(average)} = (-0.426 + (0.145*2.9029))X_2 + ((-0.820*2.9029) + 4.846)$
$\mathbf{Y_{(average)} = 0.0050795(X_2) + (2.465622)}$

"high" (mean of X_1 + sd = 3.2199)
$Y_{(high)} = (-0.426 + (0.145*3.2199))X_2 + ((-0.820*3.2199) + 4.846)$
$\mathbf{Y_{(high)} = 0.0408855(X_2) + (2.205682)}$

Figure 4.2. Fitted linear regression lines for outcome of depression illustrating interaction between deep acting and negative affect



* used ln[(depression score + 1)]
** used ln[negative affect score]

Table 4.13. Hierarchal linear regression analysis examining effect modification by 'work status' (full-time vs. part-time) on the relationship between 'deep acting' and 'depression'

	β_x	std. β_x	t	p-value	R^2	adj. R^2	R^2 change
work status	0.065	0.047	0.523	0.602			
deep acting	-0.014	-0.062	-0.692	0.491	0.006	-0.010	
work status	1.286	0.922	2.130	0.035			
deep acting	0.107	0.487	1.738	0.085			
work status x deep acting	-0.0802	-1.018	-2.066	0.041*	0.040	0.016	0.034

* $p \leq 0.05$ (two-tailed)

$Y = \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_0$ where $\beta_0 = 0.665$ (from second set of hierarchal regression analysis)

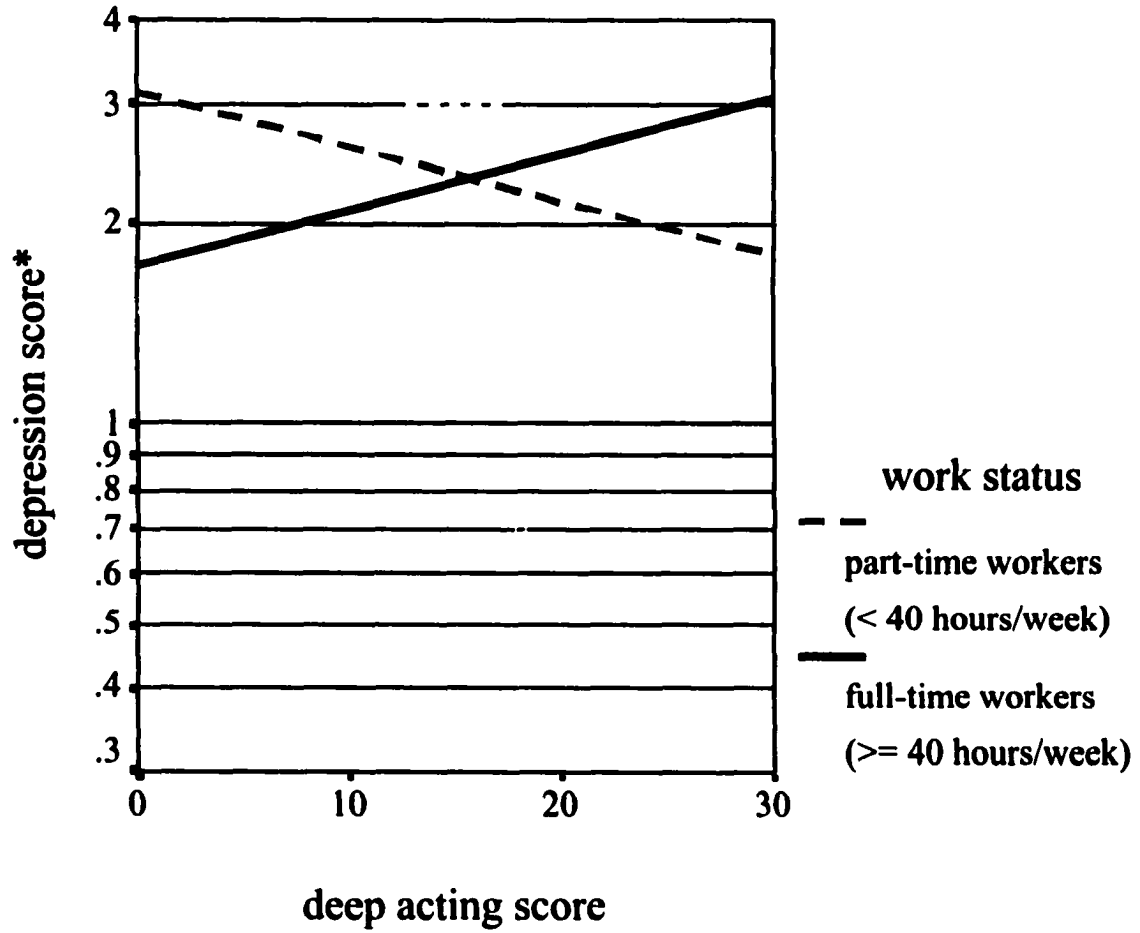
When $X_1 = 1$ (full-time work status)
$Y = \beta_1(1) + \beta_2X_2 + \beta_3X_3 + \beta_0$
When $X_1 = 1$, then $x3 = (1)X_2$, so equation reduces to...
$Y = (\beta_2 + \beta_3)X_2 + \beta_1 + \beta_0$
$Y = (\beta_2 + \beta_3)X_2 + \beta_1 + \beta_0$

$Y = (0.107 + (-0.0802))X_2 + 1.286 + 0.665$
$Y = 0.0268(X_2) + 1.951$

When $X_1 = 2$ (part-time work status)
$Y = \beta_1(2) + \beta_2X_2 + \beta_3X_3 + \beta_0$
When $X_1 = 2$, then $x3 = (2)X_2$, so equation reduces to...
$Y = (\beta_2 + 2\beta_3)X_2 + 2\beta_1 + \beta_0$
$Y = (\beta_2 + 2\beta_3)X_2 + 2\beta_1 + \beta_0$

$Y = (0.107 + (2*-0.0802)X_2 + (2)1.286 + 0.665$
$Y = -0.0534(X_2) + 3.237$

Figure 4.3. Fitted linear regression lines for outcome of depression illustrating interaction between deep acting and work status



* used ln[(depression score + 1)]

Table 4.14. Hierarchal linear regression analysis examining effect modification by 'work status' (full-time vs. part-time) on the relationship between 'social support' and 'depression'

	β_x	std. β_x	t	p-value	R^2	adj. R^2	R^2 change
work status	0.087	0.062	0.675	0.501			
social support	-0.035	-0.232	-2.547	0.012*	0.061	-0.044	
work status	2.499	1.766	2.703	0.008*			
social support	0.071	0.466	1.665	0.099			
work status x social support	-0.071	-1.792	-2.634	0.010*	0.115	0.091	0.054

* $p \leq 0.05$ (two-tailed).

$Y = \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_0$ where $\beta_0 = -0.135$ (from second set of regression analysis)

When $X_1 = 1$ (full-time work status)
$Y = \beta_1(1) + \beta_2X_2 + \beta_3X_3 + \beta_0$
When $X_1 = 1$, then $X_3 = (1)X_2$, so equation reduces to...
$Y = (\beta_2 + \beta_3)X_2 + \beta_1 + \beta_0$

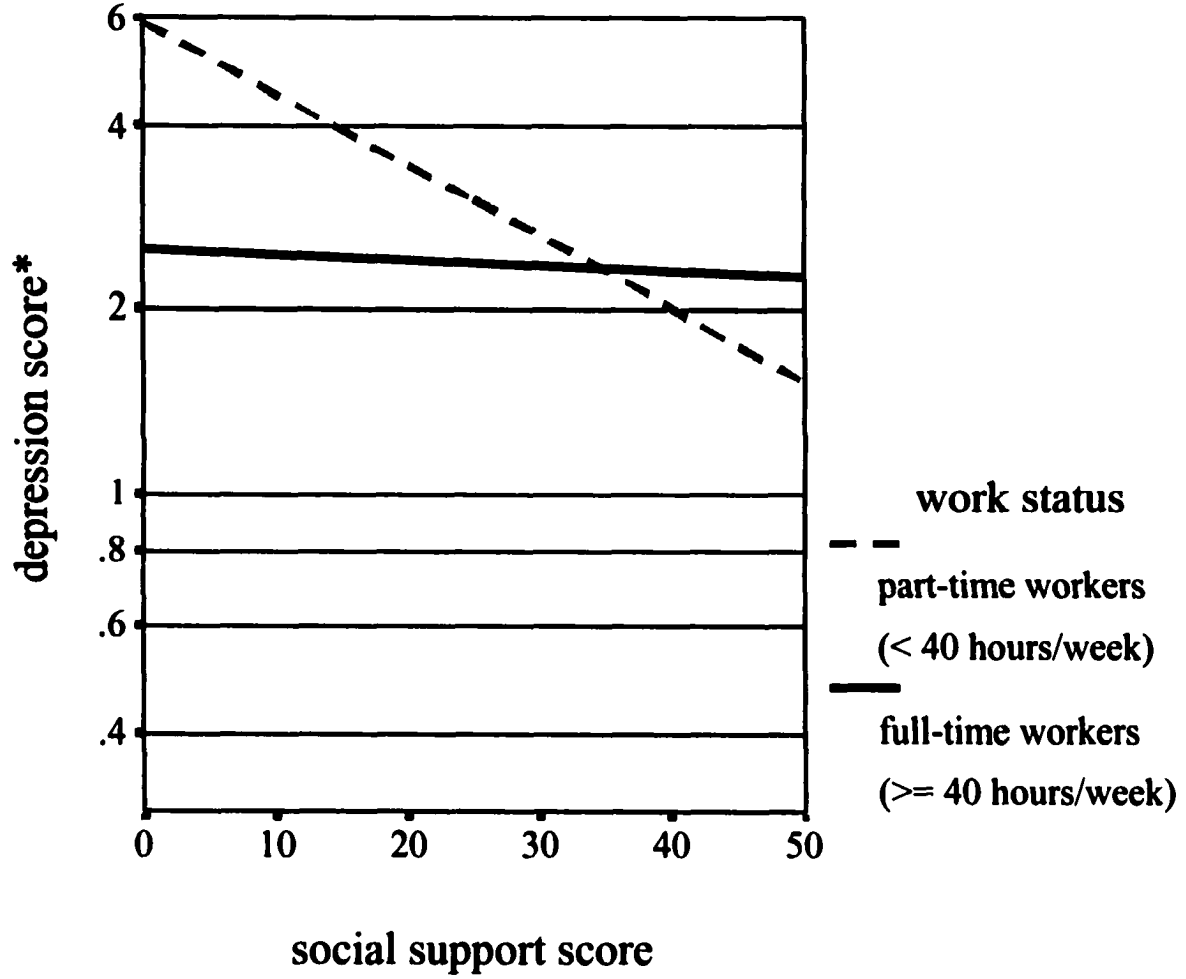
$Y = (\beta_2 + \beta_3)X_2 + \beta_1 + \beta_0$

$Y = (0.071 + (-0.071))X_2 + 2.499 + (-0.135)$
$\mathbf{Y = 0(X_2) + 2.364}$

When $X_1 = 2$ (part-time work status)
$Y = \beta_1(2) + \beta_2X_2 + \beta_3X_3 + \beta_0$
When $X_1 = 2$, then $X_3 = (2)X_2$, so equation reduces to...
$Y = (\beta_2 + 2\beta_3)X_2 + 2\beta_1 + \beta_0$
$Y = (\beta_2 + 2\beta_3)X_2 + 2\beta_1 + \beta_0$

$Y = (0.071 + (2*-0.071))X_2 + (2)2.499 + (-0.135)$
$\mathbf{Y = -0.929(X_2) + 4.863}$

Figure 4.4. Fitted linear regression lines for outcome of depression illustrating interaction between social support and work status



* used ln[(depression score + 1)]

relationship existed.

Table 4.15 lists the strategies used for the three types of hierarchal linear regression analysis by sets of variables. As the table shows, selected covariates are the same in sets one through five across all three strategies (A, B, and C). Starting with set six through to subsequent sets, differences occurred in using covariates either relevant to surface acting (strategy A), deep acting (strategy B), or both (strategy C). Considering the consistency between all three strategies and the inclusion of both forms of emotional labor, the results of strategy C, shown in Table 4.16, are the most functional for discussion.

Inclusion of all chosen covariates resulted in four statistically significant predictors: positive affect (standardized $\beta = -0.141, p \leq 0.05$), decision latitude (standardized $\beta = -0.204, p \leq 0.05$), surface acting (standardized $\beta = -1.695, p \leq 0.05$), and the interaction term, surface acting X negative affect (standardized $\beta = 1.962, p \leq 0.05$). These were statistically significant controlling for the variables sex, age, race, negative affect, work status, job title category, psychological job demand, social support, work status X social support (interaction term), deep acting, deep acting X negative affect (interaction term), and deep acting X work status (interaction term). The full model explained 49.0% (adjusted R^2) of the variance for depression. Statistically significant changes in variance (assessed using the F-change statistic) occurred between steps one and two (adding positive affect and negative affect), steps three and four (adding psychological job demand, decision latitude, and social support), steps five and six (adding surface acting), and steps six and seven (adding the interaction term, surface acting X negative affect).

Table 4.15. Strategy for three types of hierarchal linear regression analysis by sets of variables for outcome 'depression'

model set	strategy A (surface acting only)	strategy B (deep acting only)	strategy C (surface and deep acting)
set 1	sex age race	(same)	(same)
set 2	positive affect negative affect	(same)	(same)
set 3	work status job title category	(same)	(same)
set 4	psychological job demand decision latitude social support	(same)	(same)
set 5	work status x social support	(same)	(same)
set 6	surface acting	deep acting	surface acting
set 7	surface acting x neg. affect	deep acting x neg. affect	surface acting x neg. affect
set 8		deep acting x work status	deep acting
set 9			deep acting x neg. affect deep acting x work status

Table 4.16. Results from hierarchal regression model (strategy C) for outcome 'depression'

predictors	β	std. β	t-value	p-value	step	R^2	adj. R^2	R^2 change	F-change
(constant)	5.403		2.079	0.040					
sex	0.026	0.016	0.225	0.822	1	0.004	-0.022	0.004	0.158
age	0.021	0.095	1.165	0.247					
race	-0.155	-0.096	-1.378	0.171					
positive affect	-0.013	-0.141	-1.961	0.053*	2	0.449	0.424	0.445	44.851**
negative affect	-1.080	-0.489	-1.428	0.156					
work status	0.622	0.440	0.739	0.462	3	0.451	0.416	0.002	0.174
job title category	-0.015	-0.019	-0.237	0.813					
psychological job demand	0.018	0.109	1.419	0.159	4	0.495	0.448	0.044	3.089*
decision latitude	-0.013	-0.204	-2.497	0.014*					
social support	0.015	0.098	0.430	0.668					
work status X social support	-0.012	-0.296	-.522	0.603	5	0.502	0.450	0.007	1.506
surface acting	-0.279	-1.695	-2.245	0.027*	6	0.504	0.447	0.002	0.460*
surface acting X negative affect	0.100	1.962	2.305	0.023*	7	0.552	0.495	0.047	10.816**
deep acting	-0.143	-0.637	-0.787	0.433	8	0.554	0.493	0.003	0.642
deep acting X negative affect	0.055	0.783	0.938	0.350	9	0.560	0.490	0.006	0.694
deep acting X work status	-0.020	-0.253	-0.595	0.553					

* $p \leq 0.05$ (two-tailed), ** $p \leq 0.01$ (two-tailed)

The most parsimonious "best fit" regression model was obtained performing backward stepwise regression starting with the last full model used in strategy C, which possessed the most number of chosen covariates and included both surface acting- and deep acting-relevant (i.e., interaction terms) variables. Backward stepwise regression allows for the elimination of covariates that were otherwise entered but do not serve to predict the dependent variable at a statistically significant level. Results of this backward stepwise regression are shown in Table 4.17. The data revealed that the four previously identified covariates of positive affect (standardized $\beta = -0.152, p \leq 0.05$), decision latitude (standardized $\beta = -0.206, p \leq 0.01$), surface acting (standardized $\beta = -1.509, p \leq 0.01$), and surface acting X negative affect (standardized $\beta = 1.756, p \leq 0.01$) remained as predictors of depression. The variable age (standardized $\beta = 0.157, p \leq 0.05$) also proved to be a significant positive predictor for depression, as well. These five covariates explained 46.9% (adjusted R^2) of the variance for depression without controlling for any other variables.

Table 4.17. Results from backward stepwise linear regression displaying significant predictors and R^2 of "best fit" model for outcome 'depression'

predictors	β	std. β	t-value	R^2	adj. R^2	F-change
(constant)	2.742		6.183**			
age	0.034	0.157	2.164*			
positive affect	-0.014	-0.152	-2.239*			
decision latitude	-0.013	-0.206	-2.836**			
surface acting	-0.248	-1.509	-8.624**			
surface acting X negative affect	0.090	1.756	10.089**	0.490	0.469	23.261**

* $p \leq 0.05$ (two-tailed)
** $p \leq 0.01$ (two-tailed)

Job Dissatisfaction

As Table 4.9, above, shows, both surface acting and deep acting were negatively correlated with job dissatisfaction (r = -0.02, n.s. and r = -0.06, n.s.; respectively), though neither was statistically significant. While the correlation between surface acting and job dissatisfaction occurred opposite the direction hypothesized, that between deep acting and job dissatisfaction was as hypothesized. Other bivariate correlations involving other continuous measures and job dissatisfaction were statistically significant. Positive correlations were detected between job dissatisfaction and each of the following independent variables: negative affect ($r = 0.20, p \leq 0.05$), state anxiety ($r = 0.29, p \leq 0.01$), psychological job demand ($r = 0.18, p \leq 0.05$), and depression ($r = 0.33, p \leq 0.01$). Positive affect (r = -0.18, $p \leq 0.05$), decision latitude (r = -0.50, $p \leq 0.01$), and social support (r = -0.54, $p < 0.01$) were observed to each be negatively correlated with job dissatisfaction. All of these correlations occurred in expected directions.

As with the outcome depression, the mediating property for either form of emotional labor was not observed. Tables 4.18a-c display how mediation testing was conducted using examples in which the criteria for mediation were nearly achieved. In Table 4.18a, surface acting was tested as a mediating variable between job title category and job dissatisfaction and between psychological job demand and job dissatisfaction. In both of these tests, the first criterion of mediation that "an independent variable (e.g., psychological job demand, x) predicts the hypothesized mediator (e.g., surface acting, m) through simple linear regression" was not met. The beta coefficients in each regression were only statistically significant at the $p \leq 0.10$ level, and therefore not considered to qualify since the level of statistical significance was strictly set at $p \leq 0.05$. As such,

Table 4.18a. Linear regression results testing 'surface acting' as a mediator between independent variables 'job title category', 'psychological job demand' and outcome 'job dissatisfaction'

	(STEP ONE) surface acting (m)					(STEP TWO) job dissatisfaction (y)				
Independent Variable (x)	β_x	std. β_x	t	p-value	R^2	β_x	std. β_x	t	p-value	R^2
job title category	0.705	0.148	1.675	0.10	0.022	0.045	0.220	2.526	0.01*	0.049
psychological job demand	0.160	0.157	1.779	0.08	0.025	0.008	0.183	2.087	0.04*	0.034

	(STEP THREE) job dissatisfaction (y)								
Independent Variables (x + m)	(x) β_x	std. β_x	t	p-value	(m) β_m	std. β_m	t	p-value	R^2
job title category + surface acting	0.047	0.228	2.577	0.01*	-0.002	-0.051	-0.574	0.57	0.051
psych. job demand + surface acting	0.008	0.191	2.137	0.04*	-0.002	-0.047	-0.526	0.60	0.036

* $p \leq 0.05$ (two-tailed)

Table 4.18b. Linear regression results testing 'surface acting' as a mediator between independent variables 'emotional vulnerability 2[a],' 'job strain 2[b]' and outcome 'job dissatisfaction'

	(STEP ONE) surface acting (m)					(STEP TWO) job dissatisfaction (y)				
Independent Variable (x)	β_x	std. β_x	t	p-value	R^2	β_x	std. β_x	t	p-value	R^2
emotional vulnerability 2	-0.589	-0.056	-0.629	0.530	0.003	-0.111	-0.245	-2.827	0.005**	0.060
job strain 2	-0.807	-0.068	-0.732	0.465	0.005	-0.241	-0.472	-5.740	0.000**	0.223

	(STEP THREE) job dissatisfaction (y)								
Independent Variables (x + m)	(x) β_x	std. β_x	t	p-value	(m) β_m	std. β_m	t	p-value	R^2
emotional vulnerability 2 + surface acting	-0.112	-0.247	-2.833	0.005**	-0.001	-0.031	-0.354	0.724	0.061
job strain 2 + surface acting	-0.243	-0.476	-5.756	0.000**	-0.002	-0.053	-0.646	0.519	0.226

** $p \leq 0.01$ (two-tailed)
[a] low positive affect/high negative affect/high state anxiety
[b] high psychological demand/low decision latitude/low social support

Table 4.18c. Linear regression results testing 'deep acting' as a mediator between independent variables 'positive affect', 'social support' and outcome 'job dissatisfaction'

	(STEP ONE) deep acting (m)					(STEP TWO) job dissatisfaction (y)				
Independent Variable (x)	β_x	std. β_x	t	p-value	R^2	β_x	std. β_x	t	p-value	R^2
positive affect	0.089	0.211	2.409	0.02*	0.044	-0.004	-0.175	-1.989	0.05*	0.031
social support	0.161	0.237	2.619	0.01**	0.056	-0.021	-0.535	-6.787	0.00**	0.286

	(STEP THREE) job dissatisfaction (y)								
Independent Variables (x + m)	(x) β_x	std. β_x	t	p-value	(m) β_m	std. β_m	t	p-value	R^2
positive affect + deep acting	-0.004	-0.171	-1.886	0.06	-0.001	-0.022	-0.241	0.81	0.031
social support + deep acting	-0.022	-0.547	-6.719	0.00**	0.003	0.050	0.609	0.54	0.288

* $p \leq 0.05$ (two-tailed)
** $p \leq 0.01$ (two-tailed)

subsequent steps for mediation testing in these cases were unnecessary. Table 4.18b displays mediation testing using the complexes "emotional vulnerability 2" and "job strain 2" each as the independent variable, surface acting as the potential mediator, and job dissatisfaction as the dependent variable. Again, the first criterion was not met for either based on the set level of statistical significance ($p \leq 0.05$).

Results shown in Table 4.18c revealed that deep acting potentially mediated the relationships between positive affect and job dissatisfaction and between social support and job dissatisfaction. Criteria one ("an independent variable, x, predicts the hypothesized mediator, m, through simple linear regression") and two ("an independent variable, x, predicts the dependent variable, y, through simple linear regression") of mediation testing were both successfully met, but criterion three was not. Step three of Table 4.18c shows that for each of these cases that the beta coefficient of the independent variable within the multiple linear regression was statistically significant at the $p \leq 0.05$ level, but its magnitude was not diminished in the presence of deep acting (the potential mediator). The beta coefficients, rather, remain equal. This is evident by comparing the beta coefficients for the independent variable (e.g., positive affect) between steps two and three depicted in the table. In terms of the moderating effects (interaction) between any of the variables representing individual or work environment factors with both types of emotional labor (surface acting or deep acting) for job dissatisfaction as the outcome, none was found as well.

Table 4.19 lists the strategies used for the three types of hierarchal linear regression analysis by sets of variables. As the table shows, selected covariates are the same in sets one through four across all three strategies (A, B, and C). Starting with set

Table 4.19. Strategy for three types of hierarchal linear regression analysis by sets of variables for outcome 'job dissatisfaction'

model set	strategy A (surface acting only)	strategy B (deep acting only)	strategy C (surface and deep acting)
set 1	sex age race	(same)	(same)
set 2	positive affect negative affect	(same)	(same)
set 3	work status job title category	(same)	(same)
set 4	psychological job demand decision latitude social support	(same)	(same)
set 5	surface acting	deep acting	surface acting
set 6	-----	-----	deep acting

five through to set six, differences occurred in using covariates either surface acting (strategy A), deep acting (strategy B), or both (strategy C) as covariates. Considering the consistency between all three strategies and the inclusion of both forms of emotional labor, the results of strategy C, shown in Table 4.20, are the most functional for discussion.

Inclusion of all chosen covariates resulted in three statistically significant predictors: negative affect (standardized $\beta = -0.166$, $p < 0.05$), decision latitude (standardized $\beta = -0.395$, $p < 0.01$), and social support (standardized $\beta = -0.402$, $p < 0.01$). These were statistically significant controlling for the variables sex, age, race, positive affect, work status, job title category, psychological job demand, surface acting, and deep acting. The full model explained 44.8% (adjusted R^2) of the variance for job dissatisfaction. Statistically significant changes in variance (assessed using the F-change statistic) occurred between steps one and two (adding positive affect and negative affect) and between steps three and four (adding psychological job demand, decision latitude, and social support).

Backward stepwise regression was performed to determine the most parsimonious "best fit" regression model for job dissatisfaction. The backward sequence started with the last full model used in strategy C, which possessed the most number of chosen covariates and included both forms of emotional labor. Backward stepwise regression allows for the elimination of covariates that were otherwise entered but do not serve to predict the dependent variable at a statistically significant level. Results of this backward stepwise regression are shown in Table 4.21. The data revealed that the three previously identified covariates of negative affect (standardized $\beta = 0.202$, $p < 0.01$), decision

Table 4.20. Results from hierarchal regression model (strategy C) for outcome 'job dissatisfaction'

predictors	β	std. β	t-value	p-value	step	R^2	adj. R^2	R^2 change	F-change
(constant)	0.918		4.171	0.000**					
sex	0.049	0.119	1.609	0.111	1	0.021	-0.005	0.021	0.820
age	0.001	0.018	0.211	0.833					
race	0.005	0.013	0.180	0.857					
positive affect	-0.002	-0.078	-1.056	0.294	2	0.102	0.062	0.081	5.000**
negative affect	0.096	0.166	2.084	0.040*					
work status	-0.025	-0.068	-0.899	0.370	3	0.129	0.074	0.027	1.706
job title category	0.026	0.123	1.526	0.130					
psychological job demand	0.006	0.134	1.711	0.090	4	0.494	0.446	0.364	25.402**
decision latitude	-0.007	-0.395	-4.727	0.000**					
social support	-0.016	-0.402	-5.070	0.000**					
surface acting	-0.004	-0.099	-1.227	0.223	5	0.496	0.443	0.003	0.544
deep acting	0.007	0.113	1.381	0.170	6	0.505	0.448	0.009	1.908

* $p \leq 0.05$ (two-tailed)
** $p \leq 0.01$ (two-tailed)

Table 4.21. Results from backward stepwise linear regression displaying significant predictors and R^2 of "best fit" model for outcome 'job dissatisfaction'

predictors	β	std. β	t-value	R^2	adj. R^2	F-change
(constant)	0.928		5.493**			
negative affect	0.117	0.202	2.833**			
decision latitude	-0.007	-0.421	-5.803**			
social support	-0.015	-0.383	-5.202**	0.463	0.449	32.470**

** $p < 0.01$ (two-tailed)

latitude (standardized $\beta = -0.421$, $p \leq 0.01$), and social support (standardized $\beta = -0.383$, $p \leq 0.01$) remained as predictors of job dissatisfaction. These three covariates explained 44.9% (adjusted R^2) of the variance for job dissatisfaction without having to control for any other variables.

CHAPTER FIVE: SUMMARY AND CONCLUSIONS

OVERVIEW

The goals of this study were: (1) adaptation of a quantitative measure of emotional labor for young workers; and (2) testing components of a model for emotional labor predicting depression and job dissatisfaction among a sample of young workers. Phase One of this study entailed the adaptation and evaluation of the psychometric properties of the emotional labor scale from the Emotions at Work Scale (EWS) (Spratt, 1996). The objective of this analysis was to arrive at a two-factor structure for emotional labor in order to measure the distinct components of surface acting and deep acting. In addition, selection and arrangement of scale items considered Grandey's (2000) conceptual model of emotional labor intended to be used for subsequent analysis. The sample for this initial phase consisted of 129 participants available from Project Heart 4. Once a psychometrically sound two-factor emotional labor scale was determined and adapted from the EWS, it was applied within the second phase of this study.

Phase Two involved the use of the adapted emotional labor scale among a sub-set of Project Heart 4 participants to examine the relationships between emotional labor, factors of job strain, factors of emotional vulnerability, and the principal outcomes of depression and job dissatisfaction. Instruments measuring these constructs were included as part of Project Heart 4 surveys. One hundred twenty-seven participants qualified for inclusion in this second phase of the study. Data obtained from these participants were analyzed to meet the second goal of this study. This chapter continues with a discussion of the findings, limitations, and conclusions and implications for each phase of this research.

PHASE ONE: ADAPTATION OF THE EWS EMOTIONAL LABOR SCALE

Discussion

The process of adaptation and psychometric evaluation undertaken with this analysis has transformed the EWS emotional labor scale (originally developed to measure emotional labor among child care workers) into a survey instrument that captures and distinguishes the components of surface acting and deep acting with a sample of young workers. In doing so, the adapted scale stays faithful to Hochschild's original notions of how emotional labor is performed by workers. It should be noted as well that the step in the analysis involving review of scale items by emotional labor researchers was critical. This review was carried out with a formal conceptual model of emotional labor proposed by Grandey (2000) in mind. This conceptual model separates the performance of surface acting and deep acting and considers their operation as mediators, as well as the variable associations each may have with antecedent situational cues, moderating individual and work characteristics, and potential consequences for either the individual worker or organization. Bearing this in mind, the adapted emotional labor scale may be utilized within a comprehensive, multi-dimensional framework to examine numerous relationships involving emotional labor. Another point that should be taken into account was the use of a sample of young workers for this specific analysis. As such, based on the results, the adapted emotional labor scale makes available a quantitative measure that can be used for subsequent formal research among working adolescents, teens, and young adults.

The psychometric properties observed for the adapted scale contribute to the confidence in its utility. Applying criteria presented by Robinson, Shaver, and

Wrightsman (1991) to assess and evaluate the psychometric utility of a scale instrument, all mean inter-item correlations (ranging from 0.33 to 0.36), including those observed using factors from the initial primary factor analysis and the adapted version of factors, were "exemplary" (MIC = 0.30 or better). Cronbach's alpha, measuring internal consistency of the adapted version of each factor, was "extensive" (0.70 to 0.79) for surface acting, reported at 0.71, and "moderate" (0.60 to 0.69) for deep acting, reported at 0.67. Additionally, test-retest reliability for the adapted version of each factor (0.64 and 0.51 for surface acting and deep acting, respectively) was "extensive" (0.40 or better) as well, based on a three-month mean time interval between test times.

In assessing the comparability of the factors identified for the adapted scale with those obtained through the primary factor analysis, correlations were high and statistically significant across the individual factors of surface acting and deep acting and total combined emotional labor score (original 13-item scale score versus 9-item refined scale score). The correlation coefficients (r) observed were 0.94, 0.88, and 0.96 (all $p \leq 0.01$) between scores for the surface acting factors, the deep acting factors, and the total combined scores. Additional comparisons between the factors of the adapted emotional labor scale and corresponding factors identified by Spratt (1996) and Curbow during its original development revealed supplementary consistency. Given that the correlation coefficients between the adapted surface acting factor and the (Spratt-Curbow) "acting" factor ($r = 0.92, p \leq 0.01$) and the adapted deep acting and the (Spratt-Curbow) "effort" factor ($r = 0.80, p \leq 0.01$) were high, the rearrangement of scale items proved to be appropriate and in relative agreement with the matching original scale factors. Of the five items comprising the adapted surface acting factor, all were included in the seven-

item "acting" factor; while of the four items comprising the refined deep acting factor, two were included in the four-item "effort" factor. This series of comparisons notably supply additional confidence to the soundness of the refined emotional labor scale evolving from this analysis.

While the utility of the adapted version of the emotional labor scale as a quantitative measure is evident, some contrast against those used in other studies of emotional labor is warranted. Measures developed by Kruml and Geddes (2000a) and Brotheridge and Lee (2000) serve as the most suitable comparisons. These two scales, along with that adapted for this research, capture and distinguish the two-dimensional view of emotional labor as characterized by Hochschild. Additionally, development among the three scales specifically considered the service workers' perspective in relation to customers or clients, rather than to co-workers, family members, or general feeling of emotion management. Comparing levels of internal reliability (Cronbach's alpha) also reveals that our refined scale possesses comparable psychometric properties. In review of emotional labor measures used by other researchers, the adapted scale appears to be sufficiently comparable and appropriately dependable in measuring emotional labor. A scale that serves to measure the separate factors (dimensions) of surface acting and deep acting, as the adapted version capably does, falls in line with the most recently developed scales.

While other previous research efforts have encompassed a variety of study samples and objectives, it is vital to note that this research purposefully had young workers in mind. As such, this analysis provides support for the use of the adapted scale in studies specifically involving the emotional labor experience of teens and young

adults. This assertion, though, does not necessarily restrict the potential utility of the adapted version of the scale for studies among other types of study samples (e.g., "older" service workers or occupationally-identified workers). Future studies could functionally utilize the adapted scale but would need to examine its utility with other samples of workers.

Limitations

First, the exact scale items were neither originally constructed nor designed to specifically be used for research with young workers. The intent of this specific analysis was to provide results to support the applicability and use of the refined emotional labor scale for subsequent research and analyses of Project Heart data. Consequently, generalizability of the findings to study populations other than young workers is also limited. Second, a significant decision-making step in the process of subjective review of the scale was influenced by the suitability of factors studied and their correspondence with Grandey's model of emotional labor. While this approach may impose some theoretical and contextual boundaries on the adapted emotional labor scale, it does, however, produce measures that have been adapted to fit within a recently formalized and well-informed framework of emotional labor. Third, observed values of internal consistency (as assessed by Cronbach's alpha) did decrease as a function of the step of subjective review and factor/item rearrangement by emotional labor researchers. Even though the decline was not considerable, a more important issue was upholding a consistency along theoretical lines that accommodated the factor/item structure into the Grandey model. Further psychometric evaluation using a larger sample may prove fruitful in yielding higher levels of internal consistency. Lastly, for test-retest reliability

analysis, the period between test and retest times ranged between 20 to 261 days. Stability of job as well as emotional labor experience could have varied across this time span for some participants. More precise assessment of job stability (e.g., possessing the same job at both test times) would have addressed this issue.

Conclusions and Implications

The results of this analysis support the functionality and use of the adapted emotional labor scale. The instrument's key features include the distinct quantitative measurement of the surface acting and deep acting components of emotional labor; the appropriateness for use in research among young workers employed in service-oriented positions; the practicality as a short, self-administered survey; and the suitability in consideration of Grandey's conceptual model of emotional labor. Additionally, compared to earlier measures of emotional labor, the scale appears to be sound based on its psychometric properties and its maintenance of Hochschild's original ideas. The adapted scale will contribute to the need for further research in an important, relatively unrecognized segment of the service worker population, young workers. Use of this scale will also advance the knowledge of the effects of emotional labor on worker health and well-being.

PHASE TWO: FACTORS ASSOCIATED WITH DEPENDENT VARIABLES

The cross-sectional analysis carried out to achieve the second goal of this research employed effectively the same sample as that for the psychometric analysis. One hundred twenty-seven Project Heart 4 participants were included to conduct phase two of this study. The findings for this phase are summarized below for each of the stated study hypotheses.

Hypothesis One: Level of surface acting emotional labor is positively associated with both depression and job dissatisfaction.

Depression

For the entire sample, Pearson's correlation coefficient between surface acting and depression was in the direction hypothesized ($r = 0.091$), but was not statistically significant at the $p \leq 0.05$ level. A non-significant relationship was also generally consistent when examined separately within the dichotomous demographic variables sex, race, age group, marital status, school status, and work status. An exception was observed for males for whom surface acting was negatively correlated with depression, but nevertheless not statistically significant. Within the categorical variable "job title category", surface acting was also negatively correlated with depression for professional and sales groups, but was again not statistically significant. Though, for the service group, there was a statistically significant positive correlation between surface acting and depression ($r = 0.273, p \leq 0.05$).

Job Dissatisfaction

The relationship between surface acting and job dissatisfaction was opposite than that hypothesized for the entire sample ($r = -0.017$), but not statistically significant at the $p \leq 0.05$ level. Pearson's correlation coefficients examined within the dichotomous demographic variables were either positive (females, Caucasians, those older aged [> 24.26 years], those married, and those enrolled in school) or negative (males, African-Americans, those younger aged [$\leq$ 24.26 years], those single, and those not enrolled in school), though none were statistically significant. Comparing full-time and part-time workers, the correlations between surface acting and job dissatisfaction were both

negative, but again not statistically significant. Within the categorical variable "job title category", surface acting was negatively correlated with job dissatisfaction for professional and sales groups, but was positively associated for service; though none statistically significant. Considering the results for both the outcomes of depression and job dissatisfaction, hypothesis one was not supported.

Hypothesis Two: Level of deep acting emotional labor is negatively associated with both depression and job dissatisfaction.

Depression

For the entire sample, the Pearson's correlation coefficient between deep acting and depression was negative (r = -0.065) as hypothesized, but not statistically significant at the $p \leq 0.05$ level. Further examination within dichotomous demographic variables revealed the same non-significant relationship among groups for the variables sex, race, and marital status. Pearson's correlation coefficients examined within other dichotomous demographic variables were either positive (those older-aged, enrolled in school, and working full-time) or negative (those younger-aged, not enrolled in school, and working part-time), though none again were statistically significant. Within the variable "job title category", the correlation between deep acting and depression was negative for professionals and sales, but positive for service; though none statistically significant.

Job Dissatisfaction

The correlation between deep acting and job dissatisfaction was also negative (r = -0.058) as hypothesized for the entire sample, but not statistically significant at the $p \leq 0.05$ level. This non-significant negative relationship was consistent within the dichotomous demographic variables race, age group, marital status, and school status.

For the variables sex and work status, the correlation was either negative (males and part-time workers) or positive (females and full-time workers), though none were statistically significant. Also, for the variable "job title category", the correlation for professional and sales groups was negative while positive for service workers, though again not statistically significant. Considering the results for both the outcomes of depression and job dissatisfaction, hypothesis two was not supported.

Hypothesis Three: The relationships between emotional vulnerability (characterized by low positive affect, high negative affect, and high anxiety) and the outcomes of depression and job dissatisfaction are mediated by the surface acting component of emotional labor.

Depression

Surface acting did not mediate the relationship between emotional vulnerability (low positive affect, high negative affect, high anxiety) and depression. The first step of mediation testing, regressing the hypothesized mediator (surface acting) on the independent variable (emotional vulnerability), did not result in a statistically significant beta coefficient. As such, the first criterion for mediation was not met and subsequent test steps were unnecessary. A simpler version of emotional vulnerability, comprised of only high negative affect and high anxiety, was also tested. The first criterion for mediation was nearly met with the first step in this case. Regressing surface acting and the simpler version resulted in a marginally statistically significant beta coefficient. Examining subsequent steps in mediation testing, criterion two (simplified emotional vulnerability significantly predicted depression) was met, but criterion three (reduction of the beta coefficient for simplified emotional vulnerability for depression in the presence

surface acting) was not. Considering these results, using the simpler version of emotional vulnerability made no difference in the determination that surface acting did not mediate its relationship with depression. In addition, deep acting was examined as a mediator within the relationship between emotional vulnerability and depression, but also did not meet the criteria for mediation.

Job Dissatisfaction

For the outcome job dissatisfaction, similar results described above for depression hold as well. Mediation testing revealed that surface acting did not mediate the relationship between emotional vulnerability and job dissatisfaction. Again, the same first criterion tested in step one of mediation analysis (regressing surface acting on the independent variable emotional vulnerability) was not met, as described above for depression, making subsequent steps unnecessary. The simpler version of emotional vulnerability was again also examined in mediation testing for surface acting. While criterion one was marginally met and criterion two fully achieved, criterion three was not, yet again. A reduction in the beta coefficient for the simple version of emotional vulnerability in the presence of high surface acting was not observed moving from step two to three of mediation testing. In addition, deep acting was examined as a mediator within the relationship between emotional vulnerability and job dissatisfaction, but also did not meet the criteria for mediation.

Hypothesis Four: The relationships between high job strain (characterized by high psychological job demand, low decision latitude, and low social support) and the outcomes of depression and job dissatisfaction are mediated by the surface acting component of emotional labor.

Depression

Surface acting did not mediate the relationship between job strain and depression. The first criterion for mediation was not met as evidenced by the lack of statistical significance of the beta coefficient for job strain when surface acting was regressed. A simplified version of job strain, comprised of only high psychological job demand and low decision latitude, was also tested as the independent variable in mediation analysis. In step one, regressing high surface acting on this simpler version did not result in a statistically significant beta coefficient. Since criterion one was not met, steps two and three of mediation testing were unnecessary. As such, using a simplified version of job strain made no difference. In addition, deep acting was examined as a mediator within the relationship between job strain and depression, but also did not meet the criteria for mediation.

Job Dissatisfaction

As described for the outcome depression, surface acting did not mediate the relationship between job strain and job dissatisfaction. Again, the first criterion for mediation (regressing surface acting on the independent variable job strain) was not met. The simplified version of job strain was also tested as the independent variable in mediation analysis. Again, step one (regressing surface acting on this simpler version) did not result in a statistically significant beta coefficient, therefore, making steps two and three of mediation testing unnecessary. Surface acting was not observed to mediate the relationship between either versions of job strain and the outcome of job dissatisfaction. In addition, deep acting was examined as a mediator, but did not meet the criteria for mediation.

Discussion

The results of this cross-sectional analysis have provided insight into the role and effect of emotional labor on depression and job dissatisfaction. The findings relevant to each of the identified outcomes are discussed separately below. Since the mediating property of emotional labor was identified as a principal research question, and considering the results, mediation testing in relation to both outcomes is discussed collectively.

Depression

Preliminary results through bivariate correlations indicated that surface acting is positively related to depression, while deep acting is negatively related. These findings are consistent with both the traditional and conventional understanding of emotional labor that surface acting is likely to have deleterious effects on one's well-being, while deep acting can have somewhat of a protective effect (Brotherdige & Grandey, 2002; Brotheridge & Lee, 2002; Hochschild, 1983; Kruml & Geddes, 2000a). But, because neither correlation reached statistical significance (at the $p \leq 0.05$ level), hypotheses one and two relating to depression were not supported.

Though results of mediation testing failed, significant results were observed in testing for effect modification (interaction). First, the finding that negative affect positively moderated both the relationships between surface acting and depression and deep acting and depression indicated that as the level of negative affect increased (from low to average to high), the relationships for surface acting and deep acting with the outcome depression become stronger. No other study has specifically reported the moderation of surface acting by negative affect for the outcome depression, but this

finding is consistent with other research on emotional labor. In research among undergraduate college students working part-time in a variety of positions primarily in sales and service positions, Grandey, Tam, and Brauburger (2002) observed similar findings regarding negative affect (also measured with the PANAS). The authors noted that negative affectivity was a significant predictor of overall negative emotions related to work, particularly composite measures of anxiety and sadness (which included depression as a component).

The second observed interaction of note is that between deep acting and work status (full-time or part-time). The positive relationship between deep acting and depression for full-time workers can be contrasted to the negative relationship observed for part-time workers. These results suggest that the more one performs deep acting (as a function of working more hours), the greater the reported depression. This interaction supports one of Hochschild's (1983) original thoughts that while a certain amount of deep acting may be helpful in allowing an individual to deal with the demand of service work, engaging in an excessive amount of deep acting could likely lead to over-identification with one's work role and subsequently result in burnout. This finding raises the question as to whether a potential threshold for deep acting (or even surface acting) could theoretically exist in terms of certain adverse effects. Interestingly, though, comparing deep acting between full-time and part-time workers, scores were not statistically different, as assessed with a *t*-test (*t*-statistic = 0.745, $p = 0.458$). Mean deep acting score for full-time workers was 15.44 (standard deviation = 3.03) and for part-time workers was 15.02 (standard deviation = 3.36). Despite this similarity in reported scores,

full-time workers may engage in emotional labor more frequently or for longer durations of time.

Theorists of emotional labor have recommended examining an element of "time" with respect to the impact of its performance. Formal models have included the specific variables of frequency and duration. Morris and Feldman (1996, 1997) portray frequency and duration of interaction of service work expressly as dimensions of emotional labor. While they do identify time factors, surface and deep acting are excluded from their conceptualization of emotional labor. This view drastically differs from Hochschild's original characterization in which emotional labor is clearly represented and carried out by surface acting and deep acting. Morris and Feldman appear to break down emotional labor in terms of conditions of work rather than as a process of managing emotions. Grandey (2000) also incorporates frequency and duration, but stays faithful to Hochschild's depiction of emotional labor. Frequency and duration are positioned as situational cues antecedent to the processes of surface and deep acting. These results acknowledge that time factors may have implications on performing emotional labor and how it relates to consequent outcomes.

Reviewing results of the regression analyses, we observed that 47% of the variance for depression was explained by five variables: age, positive affect, decision latitude, surface acting, and the interaction term of surface acting X negative affect. Examining each of these covariates individually provides specific insight in terms of their bearing on depression. Depression (both as self-reported symptoms and diagnosed major depressive disorder) tends to increase with age progressively through the periods of childhood, adolescence, and young adulthood (Garber, 2000; Merikangas & Angst,

1995). In addition, depressive symptoms experienced during childhood and adolescent years can be indicative of future, more serious depressive disorders in adulthood (Pine, Cohen, Cohen, & Brook, 1999). Considering these reports, it is not surprising to discover that age positively predicted depression.

Positive affect and decision latitude both negatively predicted depression, as would be expected. It stands to reason that individuals with a positive outlook and that tend to feel happier emotions would be less likely to be depressed. In addition, the types of service positions in which younger workers tend to be employed (i.e., food service, retail, cashiers) typically require a more friendly, cheerful demeanor. As such, some degree of congruence between disposition (e.g., positive affect) and emotional labor (e.g., surface acting happiness) could serve to prevent a sense of dissonance that leads to adverse psychosocial outcomes. Despite the weak predictive influence of positive affect for depression, the observed association clearly reflects this notion. The negative association between decision latitude (commonly referred to as job control) and depression also makes sense since limitations or restrictions on how job duties are carried out could make the work experience unpleasant. This finding is consistent with and serves to validate the theory and research of Job Strain presented by Karasek (1979) and Karasek and Theorell (1990). Similar findings were reported by Mausner-Dorsch and Eaton (2000) who found that decision authority (one of the two components of decision latitude) was the strongest predictor for three types of measured depression (major depressive episode, depressive syndrome, and dysphoria) compared to other factors of the Job Strain model (e.g., psychological demand). Though our measure of decision latitude

combined the components of decision authority and skill discretion, our results reflect this finding.

Surface acting negatively predicted depression, contrary to the direction hypothesized. More interestingly, the interaction term between surface acting and negative affect positively predicted depression, confirming a moderating effect between the individual dispositional characteristic and the performance of a specific form of emotional labor. These results indicate that surface acting, in and of itself, may not necessarily have deleterious effects on psychological well-being, but that a negative predisposition (negative affect) in concert with having to surface act (i.e., maintaining a pleasant demeanor when dealing with clients/customers/others on the job) is what leads to adverse consequences, such as depression. In view of the sample used for this study, some possible explanations can be proposed.

Jobs among youth are typically temporary as they are either enrolled in school or transitioning from school into the workforce. With younger aged individuals, chances are greater that a current job (or even type of work) will not be a long-term nor permanent pursuit. Jobs during teenage and young adult years may not necessarily serve as foundation for an eventual career pursuit. This notion may also plausibly hold true for individuals in the early stages of a chosen career path anticipating eventual transition through promotion, lateral job movement, or changing organizations altogether. In this sense, young workers may not fully identify with or value their current jobs to the degree that older, more established workers may. The transient character of jobs early in one's work history may certainly act to limit the extent to which jobs and work define one's societal role. Also, young workers typically have less financial responsibilities compared

to older workers further explaining why they could be less likely to invest themselves or ascribe much meaning into a job. In light of these reasons, work-related demands and expectations may not be taken seriously. Thus, the performance of surface acting may not be appraised as a negative "job duty" relative to an adult worker who maintains a greater degree of personal investment and derives more pride from their work. Additionally, younger people may tend to have more positive dispositions, further making the performance of surface acting (particularly to express happy, cheerful emotions) potentially enjoyable. Further, under the assumption that work is good for youth, the overall experience of work can be empowering (i.e., earning a wage) and pleasurable during teenage and early adult years. This may act to counterbalance the burden of difficult job tasks and duties such as performing emotional labor.

The interaction between surface acting and negative affect as a positive predictor for depression leads to the conclusion that affect is a critically relevant factor in determining this outcome. Individuals with tendencies to have more negative beliefs and thoughts will appraise stressors and their consequences more negatively, therefore, will be more likely to become depressed (Garber, 2000). The idea that individual affect is an essential variable when examining the manipulation of emotions at work has also been suggested by other emotional labor researchers (Grandey, 2000; Morris & Feldman, 1996; Schaubroeck & Jones, 2000).

Brotheridge and Grandey (2002), in a study of full-time Canadian workers in a variety of service jobs, reported similar findings in terms of the psychological consequence of surface acting and negative affect. Also using hierarchal regression analysis, they found that surface acting and negative affectivity were positive predictors

for the separate outcomes of emotional exhaustion (feeling emotionally "spent") and depersonalization (detached attitude toward others), controlling for gender, occupational grouping, and specific characteristics of emotional labor (i.e., duration, frequency, variety of emotions, hiding negative emotions, showing positive emotions). Emotional exhaustion and depersonalization, reported as elements of burnout, are considered adverse outcomes and, in some sense, can be thought to lead to or be reflective of depression, as well.

In analyzing the data for this research, results showed that surface acting alone negatively predicted depression. Only when surface acting was considered in the presence of negative affect (as an interaction term) was a positive beta coefficient involving surface acting observed. Though the interaction between surface acting and negative affect was not specifically reported by Brotheridge and Grandey as in this analysis, conclusions between both sets do point to the importance of considering an individual's affect (or mood/disposition) when examining the adverse effects of performing emotional labor, specifically surface acting.

Job Dissatisfaction

Emotional labor does not seem to have an effect on job dissatisfaction in the group studied. Both surface acting and deep acting were negatively associated with job dissatisfaction, but statistical significance was not reached (at the $p \leq 0.05$ level). As such, hypotheses one and two relating to job dissatisfaction were not supported. Also, no interaction terms were observed to be significant with relevance to this outcome. Exploration with regression analysis additionally revealed that neither form of emotional labor was predictive for job dissatisfaction further countering hypotheses one and two.

Other researchers of emotional labor have reported that measures consistent with and likened to the surface acting form of emotional labor were negatively associated with job satisfaction. These measures include emotional dissonance (Abraham, 1998, 1999a, 1999b; Morris & Feldman, 1997), emotive dissonance (Kruml & Geddes, 2000b), and self-focused emotional labor (Pugliesi, 1999; Pugliesi & Shook, 1997). Results indicated that performing emotional labor (surface acting or deep acting) does not necessarily have deleterious effects on one's level of satisfaction with their job. As discussed for depression above, explanation for these findings must consider the context of youth and how they experience work or their jobs specifically. The demands of emotional labor may not affect youth in the same manner as for older, more adult workers for the reasons described above. Considering level of job dissatisfaction, it is important to note that the study sample generally reported lower levels of job dissatisfaction (mean = 0.32; 95% CI: 0.28, 0.37; possible range 0.0-1.0). This lends support to the argument that work for youth tends to be more satisfying than not.

Regression analysis revealed that negative affect, decision latitude, and social support explained 45% of the variance for job dissatisfaction. Negative affect could be reasonably viewed to positively predict job dissatisfaction. By virtue of one's tendency to feel negative emotions, the likelihood that work-related experiences being viewed as satisfying may be slim. Moreover, should the demand of emotional labor specifically require expressions or feelings of positive, happy emotions, an individual with a negative affect could most likely report greater dissatisfaction with their job. Abraham (1999a), in a study of customer service representatives employed in telecommunications, entertainment, food service, and clothing industries, reported that negative affectivity

moderated the relationship between emotional dissonance and job satisfaction such that those identified as having high negative affectivity react more adversely to emotional dissonance and are less satisfied with their job compared to those with low negative affectivity. Emotional dissonance, described by Abraham as "occurring when expressed emotions are in conformity with organizational norms but clash with true feelings," can be thought to be tantamount to conventional characterizations of surface acting.

Decision latitude demonstrated a strong direct negative effect on job dissatisfaction. This finding is not surprising as it is consistent with the idea that the more one feels control over their work duties the more one is likely to find their job satisfying. Two studies of emotional labor previously revealed some insight into the importance of job control among service workers. Adelmann (1995) reported that emotional labor (measured as an index developed for the study) positively predicted job satisfaction, but was later statistically insignificant when controlling for the work characteristics of job complexity, job control, and personal income. Wharton (1993) examined the extent to which job control predicted job satisfaction comparing one group identified as having emotional labor jobs versus another as not, per a classification scheme originally presented by Hochschild (1983). Results showed that job control positively predicted job satisfaction for both types of workers, but more strongly for the emotional labor group. This led to the conclusion that emotional labor may relatively be not harmful so long as a certain degree of control is afforded to workers. The results of this analysis advance these previous findings by using a more detailed measure of emotional labor to more precisely and individually capture surface acting and deep

acting, yet also reinforcing the importance of considering the effect of job control when examining the consequences of emotional labor.

Social support also exhibited a direct negative effect in predicting job dissatisfaction. This finding also stands to reason such that social support is believed to be a positive facet of life and particularly within the context of work. Social support in the workplace serves to assist workers to better manage and cope with job stressors. For workers who must perform emotional labor, the availability of social support may be extremely critical to deal with the demands of both surface and deep acting. Supportive social relationships may allow workers to rely on others for aid when they experience dissonance between felt emotions and those demanded or expected by the organization for which they work (Karabanow, 2000; Morris & Feldman, 1996). Hochschild (1983) provided the theoretical basis that supportive relationships between co-workers make the demands of emotional labor easier to handle, thereby recognizing the importance of social support from the inception of the emotional labor construct. Investigating this notion quantitatively, Abraham (1998, 1999b) found that co-worker social support moderated emotional dissonance such that it prevented emotional dissonance from adversely affecting job satisfaction. The findings of this research substantiate the protective nature of social support in terms of job satisfaction.

Mediation Through Emotional Labor

Neither form of emotional labor was found to function as a mediating variable between individual- or work-related variables and the outcomes of depression and job dissatisfaction. Several combinations of relationships were examined to test the mediating properties of both surface acting and deep acting, though none successfully

met the criteria for mediation as prescribed by Baron and Kenny (1986). Thus, hypotheses three and four were not supported. This finding failed to support the feature of Grandey's (2000) conceptual model of emotional labor that depicts surface acting and deep acting as potential mediating factors.

Understanding that Grandey's model is based on theoretical positions and not necessarily on empirical data, results indicated the potential need to conduct more studies to identify if emotional labor operates as a mediator. Referring to the original model, it may be that emotional labor simply mediates only between factors inherent to the service interaction itself (e.g., frequency, duration, positive vs. negative event) and an identified outcome rather than for characteristics related to either the individual worker or the workplace environment. This analysis did not incorporate measures directly within the service transaction, therefore such a notion may indeed hold true if such data are collected and examined. Additionally, the possibility that emotional labor (either form) may not operate as a mediating variable for the population of workers the study sample represents (urban youth between the ages of 17-28 years) could be argued. Young workers may not appraise the performance of emotional labor in the same way (e.g., as a calculated, preconceived business measure to capture consumer moneys) that other more adult workers might. Youth may perceive emotional labor simply as a playful job duty without ascribing judgment based on a more complex personal value system. Among older working populations, emotional labor may indeed mediate certain relationships. But, because no other research that specifically tests Grandey's model has been reported, claims and comparisons that could offer insight into this question are not readily available.

Limitations

The relationships between the identified independent, mediating, and dependent variables are based on cross-sectional analysis. Because cross-sectional data o' 'y serve to record information on the association between variables (i.e., exposure and outc. variables) at a single point in time, etiology, causation or temporal relationships cannot be established (Gordis, 1996; Rothman & Greenland, 1998a; Szklo & Nieto, 2000). As such, cross-sectional analysis may lead to an underestimation of the associations between variables since the cumulative impact of the work experience (in this case, emotional labor) is not taken into account. Despite this limitation, cross-sectional analysis does provide insight into associations indicative of risk. Distribution patterns can suggest etiological hypotheses that can be tested later by case-control and prospective studies (Morton, Hebel, & McCarter, 1996).

Additional limitations that must be considered are information bias and selection bias. Since the variables identified for this research are assessed through self-report questionnaires, inaccurate responses may result in information bias. Also, reports for some measures may be biased to particular individual characteristics, such as higher reports of depression among individuals reporting higher scores for negative affect. Selection bias may be a threat if enrollment in original Project Heart research efforts occurred as a result of personality characteristics, such as the willingness to participate. However, eligibility for participation was determined by a normal blood pressure screening in ninth grade on the 66th percentile compared to age and gender. Further, the available group of participants for this particular analysis is a convenience sample limited to those completing the surveys relevant to this research, namely the Emotions at Work

Scale (EWS) (Spratt, 1996). A larger sample size would serve to decrease the degree of sampling variation and errors that may occur as a result (Morton et al., 1996; Pagano & Gauvreau, 1993). Despite this, the number of participants included for this study was set at 127 participants and was determined to be an adequate number of study participants to achieve at least 80% power.

Also, the generalizability or external validity of the findings from this research may be limited since these qualities are dependent on the study group's representativeness of the target population (e.g., working teenagers and young adults). In order to extend our results to a larger population, experimental units should be "representative" of the larger population as findings may not be applicable to those not sharing the same characteristics (Fisher & van Belle, 1993; Gordis, 1996). Because the sample studied is predominantly African-American, female, between the ages of 17-28 years, and originally recruited while in ninth grade from Baltimore City magnate high schools; comparison of study findings to the general population of young workers may be limited to those with similar demographic features (Rothman & Greenland, 1998b).

With respect to occupation and work experiences, study participants represented a heterogeneous variety of job titles that were collapsed into three main categories (professional, sales, and service). As such, uniformity of the emotional labor experience across all participants can reasonably be questioned. Taking this into consideration, surface acting and deep acting scores were compared between these three categories using ANOVA and no statistically significant differences were observed between them. Further, other researchers have recognized that emotional labor is a "real" aspect of all types of work and not necessarily limited to job titles or industries strictly and

customarily labeled as "service" (Brotheridge & Grandey, 2002; Brotheridge & Lee, 2002; Erickson & Ritter, 2001). Client/customer interaction has increasingly become valued as a key feature to all jobs in terms of the general context of "good relations" and "smart business." For example, manufacturers can integrate and promote product-linked "friendly" service maintenance programs (Pine & Gilmore, 1999) reflecting a fervent push towards incorporating more service-oriented activities into all types of business ventures. Thus, the concept of emotional labor cannot necessarily be exclusively linked to so-called "frontline" service work.

Conclusions and Implications

This research was the first study conducted with the specific intent of examining emotional labor among young workers. Recognizing that teenagers and young adults are typically employed in jobs involving customer/client interaction (i.e., service work), it is critical to uncover the hidden and overlooked demands of such work for a potentially vulnerable population. The results first revealed that emotional labor, both surface acting and deep acting, exists as a real facet of work for this population of workers. While results indicated that surface acting negatively predicted depression, a more notable finding revealed that variables measuring dispositional characteristics (e.g., affect) as predictors of depression can play a more influential role than either form of emotional labor. As is evident in the results, surface acting was increasingly related to depression only as negative affect increased. Also, positive affect was found to independently and negatively predict depression. In terms of job dissatisfaction, neither form of emotional labor was found to be correlated, though negative affect, decision latitude, and social support were observed to have independent direct effects.

The possibility that emotional labor may not affect younger aged workers in the same manner that it does more adult workers in terms of adverse psychological consequences is worth considering. Factors such as the relatively early stage in work history (as a function of age) and the willingness to comply with work demands, such as emotional labor, (as a function of youthful eagerness and emotional cheeriness) are plausible explanations as to why emotional labor may not be psychosocially detrimental for young workers. Additional research of the emotional labor experience of young workers, while capturing individual characteristics that shape emotions and influence their management, would certainly contribute more evidence as to the variable impact of emotional labor. Because many youth enter the workforce through service sector employment, their experiences within these types of jobs may meaningfully serve to set the tone and create impressions for subsequent experiences, approaches, and psychosocial reactions within future jobs and occupations. As such, the task of emotional labor may be pivotal to a young individual's outlook towards work and its associated benefit or detriment to one's psychological well-being. Further, this effect can certainly extend to various other physiological responses as well (e.g., hypertension secondary to job strain). Thus, future longitudinal investigation of emotional labor in terms of both types of outcomes is encouraged.

This research effort also methodically integrated two recent developments in the study of emotional labor: Grandey's (2000) conceptual model of emotional labor and an adapted version of the EWS emotional labor scale (Spratt, 1996). Incorporating these into the design and methods of this research, this investigation presented the use of a practical survey instrument while offering insight into the utility of a comprehensive

model. More specifically, using a sound quantitative scale that distinctly measured the forms of surface acting and deep acting incorporated within Grandey's (2000) formal framework allowed for more deliberate and precise examination of emotional labor. Future research on emotional labor may draw upon the findings and conclusions that have resulted from this undertaking.

In addition, this study also provided a perspective that examined the construct of emotional labor through an occupational health lens. Most of the research literature on emotional labor has been developed and proliferated within the fields of sociology and psychology, and, to some extent, business and organizational studies. Occupational health, as a specialty of public health, seeks to identify hazardous workplace conditions and develop preventive strategies to eliminate or minimize exposure with the goal to protect worker health and safety. Recognizing that the performance of emotional labor can be "hazardous" to psychological health (as other types of workplace hazards can threaten physical health), occupational health professionals must be made aware of such issues and conditions, particularly amidst continuing historical trends that reveal the burgeoning growth patterns of the service industry and related employment in the United States. An improved understanding of emotional labor can assist service employers, employees (in this case, young workers), and occupational health professionals to appreciate the nature and potential hazards of service work, and, hopefully lead to workplace adjustments to prevent potentially damaging work demands. Incorporating prevention strategies to protect the psychological well-being of emotional laborers would contribute to the promotion and maintenance of a healthy and productive workforce in the service industry.

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CURRICULUM VITA

Name: Arnold Brian (Butch) de Castro

Date/Place of Birth: May 1, 1970, Los Angeles, California, United States

Academic Training:

PhD, 2003
Johns Hopkins University
Bloomberg School of Public Health
Occupational and Environmental Health

MSN/MPH, 1998
Johns Hopkins University
School of Nursing
Community Health Nursing
School of Hygiene and Public Health
Occupational and Environmental Health

BSN, 1993
University of California, Los Angeles
School of Nursing
Nursing

Honors and Awards:

Ruth Freeman Memorial Fund Award, 2002
Johns Hopkins University
Bloomberg School of Public Health

Textilease Medique New Investigator Grant, 2002
American Association of Occupational Health Nurses Foundation

James P. Keogh Memorial Scholarship Fund, 2000
American Public Health Association
Occupational Health and Safety Section

Lillian Hiss-Ethel Crosby Scholarship, 2000
Johns Hopkins University
School of Hygiene and Public Health

Delta Omega Society, Alpha Chapter, 1998
Johns Hopkins University
School of Hygiene and Public Health

Education and Research Center Training Grant, 1996-2002
National Institute of Occupational Safety and Health
Johns Hopkins University
Bloomberg School of Public Health